To Pat Jorgen

THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

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TO READERS AND CORRESPONDENTS.

The following works have been received:—

Anatomical, Pathological and Therapeutic Researches on the Yellow Fever of Gibraltar of 1828. By P. Ch. A. Louis, Physician to the Hotel Dieu, &c. From observations taken by himself and M. Trousseau, as members of the French Commission, at Gibraltar. Translated from the manuscript by G. C. Shattuck, Jr., M. D., Member of the Society for Medical Observation at Paris, &c. Boston, 1839. (From the translator.)

A Report on the History and Causes of the Strangers' or Yellow Fever of Charleston; read before the Board of Health. By Thomas Y. Simons, M. D., Chairman of the Board. Printed by order of the Board. Charleston, 1839. (From the author.)

The American Almanac, for 1840, designed for the daily use of practising physicians, students and apothecaries, &c. By J. V. C. Smith, M. D., editor of the Boston Medical and Surgical Journal, Vol. II, continued annually. Boston, 1840. (From the author.)

Medical Report of the House of Recovery and Fever Hospital, Cork street, Dublin, for two years, from 1st January, 1837, to 31st December, 1839. By G. A. Kennedy, A. M., M. D., Member of the Royal Irish Academy, President of the College of Physicians, &c. Dublin, 1839. (From the author.)

An Account of the Yellow Fever which appeared in the city of Galveston, Republic of Texas, in the Autumn of 1839, with cases and dissection. By Ashbell Smith, M. D., Ex-surgeon General of the Texian Army. Galveston, 1839. (From the author.)

An Introductory Lecture, delivered at the opening of the Medical Department of the Columbian College, November 4, 1839. By J. F. May, M. D., Professor of Anatomy and Physiology. Washington, 1839. (From Dr. Sewall.)

Report of Experiments on the Action of the Heart. By C. W. Pennock, M. D., Physician to the Philadelphia Hospital, Blockley, and E. M. Moore, M. D., late Resident Physician to the Frankford Asylum; read before the Pathological Society of Philadelphia, November 4, 1839. Philadelphia, 1839. (From Dr. Pennock.)

The Nurse's Guide, containing a series of instructions to females who wish to engage in the important business of nursing mother and child in the lying-in chamber. By J. Warrington, M. D., Lecturer on Practical Obstetrics. Philadelphia, 1839. (From the author.)

A Report of the Origin and Cause of the late Epidemic in Augusta, Ga., submitted to a meeting of the Physicians of Angusta, on the 10th of December, 1839. (From the committee.)

Circular of the Vermont Academy of Medicine, for the session of 1840. (From Professor Bryan.)

Remarks on the Medicinal Springs of Virginia. By George Hayward, M. D.; read before the Boston Society for Medical Improvement. Boston, 1839. (From the author.)

Introductory Lecture before the Albany Medical College, delivered October 1, 1839. By Gunning S. Bedford, M. D., of New York, Professor of Obstetric Medicine, &c. Published at the request of the class. Albany, 1839. (From the author.)

Introductory Lecture before the Albany Medical College; delivered October 1, 1839. By DAVID M. REESE, M. D., Professor of Theory and Practice of Physic. Published at the request of the class. Albany, 1839. (From the author.)

The Pains and Pleasures of a Medical Life, being an introductory to a course of lectures on Materia Medica and Therapeutics. Session 1839, '40. By THOMAS W. MITCHELL, M. D., Professor of Materia Medica and Therapeutics in Med. Dep. Trans. Univ. Published by the Medical Class. Lexington, Ky., 1839. (From the author.)

Introductory Lecture before the Albany Medical College. Delivered November 12, 1838. By THOMAS HUN, M. D., Prof. Institutes of Medicine. Published by request of the class. Albany, 1839. (From the author.)

Introductory Lecture before the Surgical Class of the College of Physicians and Surgeons, Fairfield, N. Y. Delivered Dec. 3, 1839. By FRANK H. HAMILTON, M. D., Prof. of Surgery. Published at the request of the class. Albany, 1839. (From the author.)

Statistics of the Medical Colleges of the United States. By T. ROMEYN BECK, M. D. From the Transactions of the Medical Society of the state of New York, Vol. IV. Albany, 1839. (From the author.)

Report of THOMAS LAWSON, M. D., Surgeon-General of the United States Army, communicated by the President to the two Houses of Congress, at the Commencement of the First Session of the Twenty-Sixth Congress. Washington, 1839. (From Dr. Lawson.)

The British and Foreign Medical Review, or Quarterly Journal of Practical Medicine and Surgery. October, 1839. (In exchange.)

The Edinburgh Medical and Surgical Journal, October, 1839. (In exchange.)

The Medico-Chirurgical Review, October, 1839. (In exchange.)

London Medical Gazette, September, October, 1839. (In exchange.)

The Dublin Journal of Medical Science, July and Oct. 1839. (In exchange.)

Zeitschrift für die gesammte Medicin, &c., August, September and October, 1839. (In exchange.)

Revue Médicale Française et Etrangère, January to October, 1839. (In exchange.)

Journal de Médecine et de Chirurgie Pratiques, January to October, 1839. (In exchange.)

Gazette Médicale de Paris, January to October, 1839. (In exchange.)

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Bulletin Général de Thérapeutique Médicale et Chirurgicale, January to October, 1839. (In exchange.)

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The American Medical Library and Intelligencer for November and December 1839, January, 1840. (In exchange.)

The Select Medical Library and Eclectic Journal of Medicine, November and December, 1839, and January, 1840. (In exchange.)

The Boston Medical and Surgical Journal, November, 1839. (In exchange.)

The American Journal of Pharmacy, October, 1839. (In exchange.)

The American Journal of Dental Science, Vol. I. No. 4. (In exchange.)

The New-York Journal of Medicine and Surgery, for January, 1840. (In exchange.)

CONTENTS.

ORIGINAL COMMUNICATIONS.

MEMOIRS AND CASES.

ART. PAGE

I. Report of the Surgical Cases treated in the Pennsylvania Hospital, during the months of July, August, September and October, 1839. By George W. Norris, M. D., one of the Surgeons to the Hospital. - - 265

II. Observations on the Employment of Cimicifuga in the Treatment of Chorea. By T. S. Kirkbride, M. D. - - - - - - - - - 288

III. On the Nitro-Muriatic Mixture as a Remedial Agent. By John P. Mettauer, M. D., of Virginia. - - - - - - - - - - 291

IV. Cases of Lupus, (Dartre Rongeante of Alibert.) By J. W. Schmidt, Jun., M. D., one of the Physicians to the New York Infirmary for Diseases of the Skin. - - - - - - - - - - - - 299

V. Cases of Hernia, with Remarks on the Use of Tobacco in that Lesion. By Samuel Jackson, M. D., of Philadelphia, late of Northumberland. - 302

VI. Case of Serious Injury of the Knee-Joint, Terminating in the almost Perfect Recovery of the Use of the Limb. By Darwin E. Stanton, M. D. 306

VII. Remarks on the Climate, Population, Diseases, &c., of Malta, with an Account of the Asiatic Cholera as it occurred in that Island and Gozo, in the summer of 1837. By Pliny Earle, M. D., of Philadelphia. - 309

IX. Remarks on Tenotomy, with cases of Club-feet, and a case of Section of the Hamstring Tendons, for Contracted Knee-joint. By Dr. Burleigh Smart, of Kennebunk, Maine. - - - - - - - - - - 316

X. A Case of Stricture of the Urethra cured by Bougies of Bark of the Slippery Elm Tree. By Wm. Waters, M. D., of Fredericktown, Md. 321

MONOGRAPH.

XI. On Dyspepsia, or Indigestion. By N. Chapman, M. D , Professor of the Theory and Practice of Medicine in the University of Pennsylvania. 333

REVIEWS.

XII. Principles of the Theory and Practice of Medicine. By Marshall Hall, M. D., F. R. S., L. and E., Lecturer on the Theory and Practice of Medicine, &c.. &c. First American Edition, revised and much enlarged. By Jacob Bigelow, M. D., Professor of Materia Medica in Harvard University; and Oliver Wendall Holmes, M. D., Professor of Anatomy in Dartmouth College. Boston, 1839; pp 724, 8vo. - - - - - 342

XIII. A Treatise on the Diseases of Infants, founded on recent Clinical Observations and Investigations in Pathological Anatomy, made at the Hospice des Enfans-Trouvés: with a Dissertation on the Viability of the Child. By C. M. Billard, M. D., &c., &c., with Notes by Dr. Ollivier, of Angers. Translated from the third French edition, with an Appendix

ART. PAGE
by James Stewart, M. D. New York, George Adlard, 1839, 8vo., pp. 620. - - - - - - - - - - - - - - - - 358
XIV. Anatomical, Pathological and Therapeutic Researches on the Yellow Fever of Gibraltar of 1828, by P. Ch. A. Louis, Physician to the Hotel Dieu; President for Life of the Society for Medical Observation of Paris; Member of the Royal Academy of Medicine of Paris; Honorary Member of the Massachusetts Medical Society, &c., &c., &c. From Observations taken by himself and M. Trousseau, as Members of the French Commission at Gibraltar. Translated from the Manuscript by G. C. Shattuck, Jr., M. D., Member of the Society for Medical Observation at Paris; Fellow of the Massachusetts Medical Society. Boston: Charles C. Little and James Brown, 8vo., pp. 374. - - - - - - - - 378

BIBLIOGRAPHICAL NOTICES.

XV. Remarks on the Pathology of the Typhoid Fever of New England, as exhibited in its Physical Signs and Anatomical Appearances. By Enoch Hale, M. D., Attending Physician to the Massachusetts General Hospital. Boston, 1839; 8vo, pp. 77, - - - - - - - - - - 396
XVI. Diseases of the Uterus, a series of Clinical Lectures delivered at the Hospital la Pitié. By M. Lisfranc, and edited by H. Pauley, M. D. Translated from the French by G. H. Lodge, M. D., &c., Boston, 1839. 401
XVII. A Report on the History and Causes of the Strangers' or Yellow Fever of Charleston. Read before the Board of Health. By Thomas Y. Simons, M. D., Chairman of the Board. Printed by order of the Board; Charleston, 1839, 8vo, pp. 23. - - - - - - - - - - - 406
XVIII. A Report on the Origin and Cause of the late Epidemic in Augusta, Ga. Submitted to a Meeting of the Physicians of Augusta on the 10th December. 1839. Augusta, 1839; pp. 30. - - - - - - - - 410
XIX. Report of Thomas Lawson, M. D., Surgeon-General of the United States Army, communicated by the President to the two Houses of Congress, at the Commencement of the First Session of the Twenty-Sixth Congress. Washington, 1839. - - - - - - - - - - 411
XX. Animal Mechanism and Physiology, being a Plain and Familiar Exposition of the Structure and Functions of the Human System. Designed for the Use of Families and Schools. By John H. Griscom, M. D., Professor of Chemistry in the New York College of Pharmacy, and Lecturer on Animal Mechanism and Physiology. Illustrated by Numerous Woodcuts by Butler. New York, 1839. Harper and Brothers, 12mo. pp. 357. 414
XXI. The American Medical Almanac for 1840, Designed for the Daily Use of Practising Physicians, Surgeons, Students, and Apothecaries. Being, also, a Pocket Memorandum and Account Book, and General Medical Directory of the United States and the British Provinces. By J. V. C. Smith, M. D., Editor of the Boston Med. and Surg. Journal. Vol. 2; Continued Annually. Boston, 1840; 12mo. pp. 152. - - 415
XXII. Report of Experiments on the Action of the Heart. By C. W. Pennock, M. D., Physician to the Philadelphia Hospital, Blockley, and E. M. Moore, M. D., late Resident Physician to the Frankford Asylum. Read before the Pathological Society of Philadelphia, October 28th and November, 4th, 1839. Philadelphia, 1839; 8vo. pp. 18. (Extracted from the Medical Examiner, No. 44.) - - - - - - - - - - 415
XXIII. Statistics of the Medical Colleges of the United States. By T. Romeyn Beck, M. D. From the Transactions of the Medical Society of the State of New York, vol. iv. Albany, 1839; 8vo, pp. 64. - - 422
XXIV. Introductory Lectures, delivered at the University of Pennsylvania, November,' 1839. By William Gibson, M. D., Professor of Surgery. Philadelphia, 1839; 8vo, pp. 16. - - - - - - - - - 422

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES IN THE MEDICAL SCIENCES.

FOREIGN INTELLIGENCE.

Anatomy and Physiology.

	PAGE
1. Anatomico-Physiological Remarks on a person who had been Beheaded.	423
2. Ectopia Cordis.	428
3. Double Peritoneal Sac. By M. Nonat.	429
4. Experiments on Digestion. By Prof. Schultz.	429
5. On the Preservation of Subjects for Anatomical Purposes. By B. G. Babington, M. D., and G. O. Rees, M. D.	434

Pathological Anatomy and General Pathology.

6. Distinct Small Pox, followed in six weeks by an attack of the same disease in its confluent form, and terminating fatally. By Dr. Renaud.	436
7. Enormous Accumulation of Fœcal Matter in the Rectum.	437
8. Effusion of Blood into the Substance of the Brain. By Dr. Greene.	437
9. Laryngismus Stridulus.	437
10. Sacculated Condition of the Bladder. By Dr. Colles.	438
11. Cysts of the Bladder. By Mr. Adams.	439
12. Mr. Ceeley's Experiments with Small Pox.	440
13. On Pus in the Blood, in Diseases attended by Inflammation and Suppuration. By George Gulliver.	441

Materia Medica and General Therapeutics.

14. Clinical Experiments on the Emetic and Sudorific Properties of the Hydrated Sulphuret of Antimony, with Excess of Sulphur. By Dr. M. A. Toulmouche.	444
15. Styptic Action of Creosote. By Drs. Muller and Reiter.	444
16. Formula for Internal Administration of Turpentine.	445
17. Citrate of Quina. By Prof. Beraudi.	445
18. On the Medical Properties of Aloes. By G. G. Sigmond, M. D.	445
19. Medical Properties of Copaiba. G. G. Sigmond, M. D.	446
20. Syrup of Ioduret of Iron. By M. Fredkerking.	449

Special Pathology and Special Therapeutics.

PAGE

21. Paraplegia Cured by the Use of the Secale Cornutum. - 450
22. Case of Acute Anasarca and Convulsions after Scarlatina Relieved by a Profuse Bleeding. By Dr. Marshall Hall. - - 451
23. Fetid Perspiration in the Armpit. By Dr. Guastamacchia. - 451
24. On the Employment of the Compound Mercurial Plaster, for the Prevention of Pitting in Small Pox. By N. Aug. Nonat. 451
25. On the Employment of Gold-leaf for the Prevention of Pitting in Small Pox. By Baron Larrey. - - - - - - 435
26. Creosote in Deafness. By Mr. Curtis. - - - - - - 453

PAGE

27. Contribution to the Pathology of the Diseases of the Lungs—Tubercular Excavation, without cough or expectoration, or any apparent symptoms of illness, presenting in an active, muscular young man, and suddenly proving fatal by rupture of a large blood-vessel. By D. Maclachlan, M. D. - - - - 453
28. Case of Croup in a Woman thirty years of age, Cured by the Nitrate of Silver. - - 455
29. Treatment of Stomatitis, or Gangrenous Inflammation of the Mouth. By M. Taupin. - 456
30. On Chlorosis accompanied by Menorrhagia. By M. Trousseau. 457

Surgery.

31. On Resection of the Lower Jaw. By M. Wœnker. - - 458
32. On the Treatment of Fractures by the Immovable Apparatus. 460
33. Comminuted Fracture of the Frontal Bone followed by Abscess of the Anterior Lobe of the Brain.—Cure. - - - 462
34. Influence of Position in Effecting Reduction of Hernia. - 463
35. Extirpation of the Greater Portion of the Left Clavicle. By Prof. G. Regnoli. - - - 463
36. Lithotripsy in Italy, - - 464
37. Statistical Account of the Cases of Stone Operated on in 1838. By Dr. Rienzi. - - 465
38. Statistics of Operations of Lithotomy, Performed by Dr. Campanella. - - - - 464
39. Statistics of Operations of Lithotrity. By Dr. Campanella. 465
40. Moxas of Wafers. By Prof. Graefe. - - - - - - 465
41. On the Treatment of Inguinal Hernia by Trusses. By M. Malgaigne. - - - - - - 465
42. Roux on Lacerations of the Perineum and Recto-Vaginal Septum. - - - - - 468
43. Jobert on Internal Piles. - 471
44. Jobert on Fissures of the Anus. - - - - - - 472
45. On Torsion of the Arteries. By Dr. Remak. - - - - - 473
46. Artificial Anus formed in the left Lumbar Region. By M. Amussat. - - - - - 473
47. Historical Notices on the Occurrence of Inflammatory Affections of the Internal Organs after External Injuries and Surgical Operations. By Dr. William Thompson. - - - - 475
48. Tracheotomy in Croup. - 476
49. Cases of Chronic Hydrocephalus successfully treated by Pressure. By J. F. Barnard. 476
50. On the Process of Reparation after simple Fracture of Bones. By Bransby B. Cooper. - - 479
51. Ricord on the Use of the Hydriodate of Potass in Syphilis. - - - - - - - 480
52. Wound of the Abdomen—Protrusion of the Bowels—Recovery. By Mr. Alcock. - 481
53. Penetrating Wounds of the Heart. By M. Jobert. - - 482

Midwifery.

PAGE

54. Delivery of a Fœtus with the Secundines, the Membranes Unbroken. By Dr. V. Szokalski. - - - - - 483
55. New Test for the Detection of Pregnancy. - - - - 483
56. Duration of Pregnancy. - 484
57. Yellow Liquor Amnii. By Dr. Perdon. - - - - - 485
58. Extra Uterine Fœtation. By Dr. Spaeth. - - - - - 485
59. Five Children at a Birth. - 485
60. Case of Spontaneous Evolution. By Dr. Carganico. - 485
61. On the Use of the Plug in Placental Presentations. By Dr. Evory Kennedy. - - - 486
62. Cæsarian Operation. By M. Hoebeke. - - - - 486

Medical Jurisprudence and Toxicology.

63. On Poisoning with Arsenic—Orfila's Late Discoveries. - 487
65. On the Effects which Result from the Introduction of Pins into the Digestive Organs. By M. Ollivier d'Angers. - - 492
65. On some New Signs of Suspension having taken place during Life. By M. Devergie. - 492

Medical Statistics.

66. Vital Statistics of Paris. - 493
67. Prison Mortality in France. 493

Miscellaneous.

68. Means of Rendering Respirable an Atmosphere containing a portion of Carbonic Acid. By Professor Graham. - - 493

AMERICAN INTELLIGENCE.

Case in which a thimble was impacted in the Right Posterior Naris. By Paul F. Eve, M. D., Professor of Surgery in the Medical College of Georgia. - 494
Report of the Obstetric Department of the Philadelphia Dispensary, for the year 1839. By Joseph Warrington, M. D., Accoucheur. - - - - - 494
Raw Cotton a Cure for Chafes. By Dr. A. Robertson, of Gainesville, Alabama. - - - 494
Proceedings of National Medical Convention, at Washington. 496
Medical Topography of the City

PAGE

of Galveston, Texas, with an Account of the Symptoms and Fathology of the Yellow Fever, which prevailed in that city in the autumn of 1839. By Ashbel Smith, M. D., Ex-Surgeon-General of the Texian Army. - 499

Operation for Remedying an Anchylosis of the Hip-Joint. By Dr. Kearney Rodgers. - - 507

PAGE

Sensitive Tumours of the Female Urethra. By Dr. A. E. Hosack. 509

Dr. Detmold on Club-foot and some Analogous Diseases. - 510

Vermont Academy of Medicine. 512

Clinical Instruction given at Wills' Hospital for Persons Affected with Diseases of the Eyes and Lameness. - - - - 512

Dr. Thomas Cooper's Works. - 512

THE

AMERICAN JOURNAL

OF THE

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ART. I.—*Report of the Surgical Cases treated in the Pennsylvania Hospital, during the months of July, August, September and October*, 1839. By GEORGE W. NORRIS, M. D., one of the Surgeons to the Hospital.

FROM the 1st of July, 1839, to the 1st of November, following, there were admitted into the surgical service of the Pennsylvania Hospital 197 patients. Of this number 101 were discharged cured; 27 were relieved, removed by friends or eloped; 18 died; and 51 remained under treatment on the 1st of November. The diseases admitted and number of each are shown in the following table:

Abscess	3	Fracture of cranium	2
Apoplexy	1	Fracture of spine	1
Burns and scalds	8	Fracture of clavicle	5
Bladder, inflamed	1	Fracture of arm	2
Cancer of mamma	1	Fracture of neck of humerus	1
Caries of nose	1	Fracture of elbow	1
Caries of knee	1	Fracture of fore-arm	6
Cataract	1	Fracture of thigh	5
Compound dislocation of finger	1	Fracture of neck of thigh	1
Concussion of brain	2	Fracture of leg	6
Contusions	28	Fracture of ribs	2
Cornea, ulcers of	2	Fracture of bones of foot (comp.)	3
Dislocation of shoulder	1	Un-united fracture of thigh	1
Dislocation of jaw	1	Un-united fracture of forearm	1
Dislocation of clavicle	1	Fungoid tumour of tibia	1
Epistaxis	2	Furunculus	1
Eye, fungus hæmatodes of	1	Hæmorrhoids	1
Fistula in ano	1	Hernia, strangulated	2

Inflammation of ankle	2	Ruptured ligament of patella	1
Inflammation of leg	1	Sprain	1
Inflammation of knee	3	Stricture	2
Inflammation of thigh	1	Syphilis	21
Inflammation of glands of the neck	1	Syphilis, secondary	4
Inflammation of inguinal glands	1	Testes, enlarged	2
Necrosis	1	Tonsils, enlarged	2
Ophthalmia	4	Tumours	2
Orchitis	3	Ulcers	5
Osteo-sarcoma of foot	1	Ulcers, varicose	1
Poisoned by laudanum	1	Ulcers of throat	1
Porrigo	1	Wounds, incised	7
Prostate, enlarged	1	Wounds, lacerated	20
Psoriasis	2	Wounds, punctured	1
Retention of urine	1	Wounds, gunshot	4

The annexed table will make known the injuries or diseases which terminated fatally, together with the age of the patients, the period survived after entrance into the hospital, and the immediate cause of death.

Disease for which admitted.	Age.	Period survived.	Immediate cause of death.
1. Comminuted fracture of clavicle.	31	4 days.	Delirium tremens.
2. Incised wound of head.	33	5 days.	Delirium tremens.
3. Lacerated wounds of arm and leg.	35	4 days.	Delirium tremens.
4. Caries of bones of the nose.	26	14 days.	Inflammation of the brain
5. Compound fracture of fore-arms, injured head and lacerations.	67	Less than 24 hours.	Compression of the brain.
6. Fractured spine.	46	9 days.	Peritonitis and pleurisy.
7. Gun shot wound.	30	8 days.	Erysipelas.
8. Compound fracture of cranium	16	60 days.	Abscess of the brain.
9. Cataract.	65	34 days.	Apoplexy.
10. Gun shot wound.	15	Less than 24 hours.	Effects of injury.
11. Burn.	2	Less than 24 hours.	Burn.
12. Fractured thigh.	40	7 days.	Delirium tremens.
13. Fractured thigh.	39	3 days.	Delirium tremens.
14. Fractured thighs and ribs.	27	Less than 24 hours.	Effects of injury.
15. Burn.	4	Less than 24 hours.	Burn.
16. Compound fracture of cranium, arm and jaws.	25	3 days.	Effects of injuries.
17. Fungus hæmatodes of eye.	7	76 days.	Fungus hæmatodes.
18. Strangulated hernia.*	58	Less than 24 hours.	Strangulated hernia.

During the term the following operations were performed.

Disease or injury.	Age.	Operation.	Result.
1. Lacerated and fractured foot.	60	Amputation of leg.	Cured.
2. Luxated humerus of 3 months.	59	Attempted reduction with pulleys.	Failure.
3. Lacerated and fractured foot.	5	Amputation of leg.	Cured.
4. Cancer of mamma.	61	Extirpation of mamma.	Cured.
5. Fibrous tumour of calf of leg.	66	Extirpation of tumour.	Cured.

* This patient was in a dying state when admitted and was not operated on.

Disease or injury.	Age.	Operation.	Result.
6. Comminuted fracture of leg.	40	Amputation of leg.	Cured.
7. Hand torn off by machinery.	28	Amputation of fore-arm.	Cured.
8. Fistula in ano.	24	Division of fistula.	Relieved.
9. Encysted tumour.	23	Extirpation of tumour.	Cured.
10. Dislocated Jaw.	63	Reduction.	Cured.
11. Enlarged tonsils.	16	Excision of tonsils.	Cured.
12. Compound fracture of arm.	32	Amputation of arm.	Cured.
13. Lacerated and fractured foot.	25	Amputation of leg.	Convalescent.
14. Osteo-sarcoma of foot.	47	Amputation of leg.	Cured.
15. Fungous tumour of tibia.	33	Amputation of thigh.	Cured.

Of the eight amputations, four were rendered necessary in consequence of the passage of railroad cars over the limbs. The injuries received on these roads form the most severe class of accidents which are admitted into the hospital, and the majority require immediate amputation; their number has been gradually augmenting for some years past, and owing to the increase of railroads in the neighbourhood of the city it is to be feared that this will still continue to be the case. In the amputations the common circular operation was in all cases performed, modified, however, for the leg, by carrying the incision through the integuments a little lower behind on the calf of the leg than in front.

Fractures.—The number of fractures admitted during the term were fewer than usual; the following are the most interesting which came under notice.

Fracture of the Neck of the Os Humeri.—James Orr, ætat. 20, very muscular, was admitted, August 16th, for an injury of his right shoulder, produced by a fall into a cellar on the preceding night. On examination the whole shoulder was found to be severely contused, tumefied and much discoloured from effusion of blood. There was an inability to raise the arm from the body; the acromion and clavicle could be traced in their whole extent and were found to be uninjured; upon seizing the shoulder with one hand and carefully rotating the arm with the other, very distinct crepitus could be perceived. The arm could be readily moved in all directions and brought down closely in contact with the body. The patient stated that immediately after his accident the extremity had been well pulled, in the belief that the bone was dislocated, and was suffering severe pain at the period of admission. The limb was supported in a sling and ℥iv. of blood were taken from the part by means of leeches.

17*th.* Less pain since the leeching; swelling not increased; the shoulder to be gently bathed with lin. saponis several times during the day.

On the 18th all pain had ceased; by the 20th the swelling had greatly diminished; to-day the arm was removed from the sling and a roller applied from the hand upwards; three pasteboard splints were then adjusted on the back, outer side and front of the arm, which being secured by the remainder

of the roller, a pad was placed in the axilla and the arm fixed to the chest by means of a bandage passed around the trunk, the fore-arm being supported in a sling. This treatment was continued till the 14th of September when union was found to be perfectly firm and the splints were omitted. On the 18th he was discharged cured.

Fracture of the Spine.—Isaac Clark, ætat. 46, was admitted, August 7th, for an injury of the back. A short time previously he had placed himself on the top of a railroad car, in the car house, and when the car was drawn out, his body was in some way caught under the door of the house and he thinks was bent backwards. Immediate paralysis of the lower limbs followed. Upon admission a well marked depression was observed at the lower part of the dorsal vertebræ and the integuments of the whole upper spine were much excoriated. He was placed upon his back and had his bladder, which was distended, emptied by a catheter. Previous to admission he had been freely bled. On the following day, some tympanitis of the abdomen existed, and he complained greatly of pain in his back; a common enema was administered, and six cups were applied on either side of the spine; the catheter was used every 12 hours.

10*th.* States that he was much relieved by the application of the cups. 12th. Early to-day he had a severe chill which was followed by fever; pulse 124; abdomen swelled and painful on pressure; bowels were moved freely yesterday and this morning by a mild cathartic; mist. neutral ℥ss. q. b. h. with a small quantity of calomel and Dover's Powder every four hours, warm fomentations to abdomen.

13*th.* Pulse upwards of 130; abdomen more swelled and painful; had another severe chill this morning; treatment continued, a warm flaxseed poultice being exchanged for the fomentations. From this date till the 16th, the day of his death, he continued with little or no change; the same treatment was continued with the addition of a portion of sulph. morphiæ at night.

Autopsy, nineteen hours after death.—Upon laying bare the spine in its posterior part, the fracture was found to be at the ninth dorsal vertebra, the spinous process of which was driven in upon the canal. Severe contusion and effusion of blood in the parts around existed. Upon cutting into the abdomen the intestines were found to be highly distended with gas and the peritoneum inflamed about the seat of fracture. This was seen to extend obliquely through the body of the bone in such a way as to cause the upper part of the spine to project forwards considerably and press upon the spinal marrow. The spinal canal was opened and the cord for some distance above and below the seat of injury was removed. Its membranes were not ruptured. The medullary substance at the point of fracture was found to be soft, pulpy and discoloured. Upon making a section of it, numerous minute red points were seen for some distance above and below the seat of injury. Old adhesions of the pleura of the right side, and extensive recent adhesions

of that of the left, with effusion of puruloid serum, were found. The mucous coat of the bladder was in a high state of inflammation.

Compound Fracture of the Cranium with Protrusion of the Brain, terminating fatally on the sixtieth day from Abscess of the Brain.—John Flood, ætat. 16, was admitted on the morning of the 1st of July, with a compound fracture of the cranium. He was an attendant upon a machine worked by steam for planing iron, and while in the act of stooping down to arrange some part of the works, having previously arrested its motions, he accidentally set the machine to working, and before he could be disengaged from it, his head was pushed gradually up against a projecting bolt firmly fixed into the iron plate upon which the plane moved. This bolt, which was square at its projecting extremity and measured three quarters of an inch on either side, entered the fore part of the head to the depth of an inch and a half. From this situation the workmen attempted to extricate him, but finding this impossible, separated the bolt, together with a heavy piece of iron to which it was attached, from the machinery, leaving it firmly fixed in the skull. Attempts were then again made by the foreman of the shop, to remove the bolt, but without success, and a medical gentleman in the neighbourhood was sent for. The opening in the forehead was of such small extent that it was found necessary to enlarge the wound in the soft parts slightly at its corners, and afterwards to turn the bolt until its angles corresponded to the corners of the wound before it could be withdrawn. Two or three small portions of bone which had been driven in upon the brain were removed after the withdrawal of the bolt. At the visit soon after his entrance into the hospital, the seat of injury was found to be at the anterior part of the frontal bone an inch above the orbitar ridge, and a little to the left of the middle line. At this point a portion of brain, judged to be nearly equal in size to a large walnut, was protruding and much lacerated. The patient was sensible and complained of no pain; pupils natural; pulse slow and feeble; is unable to raise the right arm from the bed, though he is able to close his fingers feebly, and has perfect sensation in it; no paralysis of any other part of the body. He was placed on his back with his head elevated, and the wound covered with a pledget of lint, without any attempt being made either to return or remove the protruding brain, and ice-water was applied to the forehead.

July 2*d.* Is stated by his friends, who remained with him, to have had a slight wandering of the mind during the night, but at time of visit his mind was in no way disordered. Pulse not frequent, and but moderately full; skin warm. Venesection; mist. neutral. with gr. 1-16 antim. tartar. every two hours. Cold to head continued. Absolute diet.

3*d.* Makes no complaint, Passed a good night. Face rather more flushed than it has yet been; pulse 80: skin pleasant; no inflammation about the wound. Protruding portion of brain has in a great measure disappeared.

Paralysis of arm has neither increased nor diminished. But a small quantity of blood was taken from him yesterday. The tartar emetic in the neutral mixture produced sick stomach and is omitted. To take a purge of extr. colocynth comp. and calomel āā grs. v.

4*th*. Pulse 60 and without much force. No delirium. Medicine has not yet operated. Treatment continued with the addition of an enema.

5*th*. Bowels freely moved yesterday. Senses perfect. Pulse 60. Wound continues to look well, being free from inflammation. Slight discharge of pus from its edges and surface. Diet, cold to head and mist. neutral. continued; extr. colocynth comp. and calomel to be repeated this evening.

9*th*. To-day is able to raise the right fore-arm partially from the bed; with this exception no material change has occurred since the last report. Pulse 64; tongue clean. A very moderate discharge of pus from the edges of the wound, which is not inflamed or sore to the touch; the centre of the wound is covered with a slight slough. Demands food, and thin arrow root is allowed in addition to gruel and barley water. The treatment has been continued, with calomel and colocynth every other night.

12*th*. Complained yesterday of pain over his eyes, which was entirely removed by a free discharge produced by his purge. To-day all his symptoms continue good. Edges of the wound are healthy, though the centre of it appears still sloughy. The discharge from it is slight and of thick yellow pus.

15*th*. Has complained on two or three occasions since the last report of pain over his eyes and giddiness of the head, but this has always passed off in a short time. The cold to head, neutral mixture and purging every other day are continued. There has been no improvement in the arm since the 9th. Wound is not inflamed. There is now but a slight rising at this point above the level of the bone. Discharge from it has increased and continues thick and yellow. Mind perfect.

18*th*. General symptoms continue good; has to-day more power over the fore-arm, but is not able to raise the arm completely from the bed. The slough has entirely separated from the wound, which is covered with red, healthy looking granulations. Large discharge from it of healthy pus. To-day the purge of calomel and colocynth was stopped and mass. ex hydrarg. grs. iij was given thrice daily.

On the 19th the paralysis had entirely left the arm and he was able to raise it completely from the bed. From this date up to the 18th of August the patient continued to do well, the wound presenting a healthy appearance and cicatrization progressing slowly. On the evening of the day mentioned he was seized with a chill followed by fever, pain in the head and diarrhœa. On the 19th I found him complaining of pain in the head, with a flushed face and a pulse of 116; pupils natural; discharge from the wound much increased. Venesection to ℥viij. at which time he became weak; poultice to wound; no effort to check the diarrhœa was made.

20*th.* No return of chill; head easy; pulse 88. On the 21st the discharge was in a much less quantity, and from this time up to the 30th, the day of his death, continued to be very trifling. A day or two previous to death his memory was slightly affected, and he was observed to sleep sounder and more than he had previously done; no paralysis. Early on the morning of the 29th he was much as he had been on the previous day, but at mid-day was found to be in a state of profound stupor with the pupil of the right eye strongly contracted, while that of the left side was dilated. In this state he continued till early in the morning of the 30th, when he died.

Autopsy nine hours after death. The wound in the head was one and a half inches above the orbitar ridge. A small piece of bone was driven in and pressing upon the brain. The dura mater around the wound was thickened and strongly adherent to the brain. The anterior lobe of the left hemisphere of the brain was of a bluish yellow colour, softened and presenting evident fluctuation. The vessels of the pia mater were much injected; an abscess was found immediately beneath the dura mater at the point at which it was adherent to the brain, occupying the whole anterior lobe and filled with thick yellow pus—thought to amount to ℥v, or ℥vi. The walls of the abscess were lined by a thick false membrane of a grayish colour. The cerebral matter around it was of a light yellowish colour and softened. A portion of the internal table of the bone, about an inch and a quarter in length, was found driven in beneath the sound bone at the upper part of the wound, and at the side of it, a small fragment was found firmly attached to it. The opposite hemisphere of the brain presented the natural appearances; the ventricles were much distended with serum; the edges of the fractured bone were rounded off and perfectly smooth. No further examination was permitted by his friends.

The frequent occurrence of abscess of the brain after fractures of the cranium is well known. The above instance, however, is a little remarkable from the large size which the abscess had attained, as well as from the length of time the patient survived after the accident, free from all unpleasant symptoms. The knowledge that the loose portions of bone had been removed immediately after the accident, and the entire freedom from all symptoms of compression of the brain, were sufficient to prevent a resort to any operative procedure. In order to guard against inflammation of the brain, our chief dependence, after a state of perfect quiet and low diet, was in moderate venesection, the application of cold, and steady purging. The disappearance of the paralysis of the arm, and the entire absence of every unfavourable symptom, would have encouraged me to look forward to recovery but for the recollection of the termination of all similar injuries with escape of brain, which I had seen. The following notes of a case which I took while resident surgeon in the hospital, in which the patient lived more than four months after the accident, is somewhat similar to the

above, and taken in connection with it is well calculated to show the extreme caution in prognosis necessary after like injuries.

William Malone, ostler, ætat. 34, was admitted, December 3d, 1832, under Dr. Hewson, for compound fracture of the cranium with depression of the bone. His injury had been produced two hours before admission by a blow over the right side of the head with an axe. The wound in the scalp was four inches in length, and a fracture with some depression of the bone existed. The physician who saw him previous to admission stated that a small portion of brain had escaped from the wound. He had lost a large quantity of blood, and had no symptom of compression of the brain, or uneasiness of any kind about his head. The lips of the wound were brought together with adhesive plaster, and cold was applied to his head.

Under a very rigid antiphlogistic treatment he did well till the 13th, when he was observed to sleep more than usual, and when aroused said that his head felt heavy and painful. No inflammation existed around the wound which had partially united. Thin pus was discharged from it, and it had for some days previously been dressed with a poultice. Cups were applied to his temples and back of the neck, and he was purged with salts and put upon the use of nitrous powders. He stated that some relief had been afforded him by the cupping, though on the 14th he complained of his head being still heavy, and slept a great deal and heavily. His pulse had become slower (60); skin dry and warm. The dose of salts was repeated, and nitrous powders continued.

15*th.* More stupid than yesterday, but can be easily roused; complains of pain across his forehead; pulse and skin as yesterday; the whole head was shaved and a blister applied to it, and the following solution given in ounce doses in place of the nitrous powders: ℞. antim. tartar. grs. ij; sulph. magnes. ℥i; aq. fluvial, ℥vii.

On the 16th he continued much the same, but on the 17th was better, being free from pain in the head and sleeping less; the blister discharged freely.

By the 20th the blister had healed and he had no return of pain in the head.

On the 22d I discovered that he had not complete power over his left arm, and he stated that he had not had for two days previously; no headache; discharge from wound less. He continued to improve from this date till the 8th of January, 1833, when he complained of pain in his forehead, for which he was cupped and purged with relief. By this time he had completely regained the use of the left side.

On the 9th he had a return of the pain, and he again lost the use of the left arm. The pain was again removed by cupping and purging, and two days after he had partially regained the use of the member.

On the 16th a piece of the outer table of the bone, an inch in length, was found to be loose within the opening and was removed.

On the 23d he was suffered to walk about the ward and had his diet

slightly increased; the wound had healed with the exception of a fistulous orifice leading to the seat of fracture. His mind was perfect; he suffered no pain, but had only an imperfect use of the arm of the left side.

He continued, as at the last report, until the 26th of March, when he was seized suddenly with a convulsion; for this, cupping and cold to the head were again resorted to with relief. The fistulous opening still remained from which there was daily a discharge of pus.

In consequence of this attack it was judged proper to cut down to the bone and ascertain whether or not any fragment pressed upon the brain; this was accordingly done, but no projecting portion was discovered. No material change took place from this time till the 2d of April, when he complained of headache which was in a short time followed by vomiting, insensibility, and death on the same day.

Upon examination, eighteen hours after death, it was found that the internal table of the fractured portion of bone had been driven under the sound bone, and had become firmly adherent to it; and that an abscess occupying the greatest portion of the anterior and middle lobes of the brain, existed on the right side of the head, communicating with the external wound and lateral ventricle.

Un-united Fracture of the bones of the Fore-Arm of four weeks standing. Treatment by perfect rest and pressure—Cure.—Henry Baldwin a healthy boy, ætat. 12, was admitted July 31st. His mother stated that his accident had been produced by a fall four weeks previously, and that his arm had been attended to by a physician in the country. Upon examination, the fracture was found to be near the middle of the fore-arm; neither of the bones had united, considerable deformity existed, from bending of the bones outwards, and the integument was slightly ulcerated over the projecting ulna. The fore-arm was secured to a splint extending from the elbow beyond the fingers, and as much pressure was made over the projecting fragments, as the patient was able to bear. At first the bandage was removed, and the pressure reapplied daily, and after a short time every second or third day. By the 20th of August, perfect union had taken place, and the limb had become much straighter. Pressure and the splint however was continued till the 4th of September, and on the 28th he was discharged perfectly well, and with a very slight deformity at the part.

Un-united Fracture of the Femur of seven months standing—Treatment by rest and compression.—Michael Ward ætat. 50, and enjoying good general health, was admitted, September 14th, with an un-united fracture of the femur. He states that he received his accident in the middle of last February, by the fall of a bank of earth upon the limb. His left femur was broken obliquely in its lower third, together with both bones of the leg of the same side a short distance below the knee. After a treatment of seven or

above, and taken in connection with it is well calculated to show the extreme caution in prognosis necessary after like injuries.

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Un-united Fracture of the Femur of seven months standing—Treatment by rest and compression.—Michael Ward ætat. 50, and enjoying good general health, was admitted, September 14th, with an un-united fracture of the femur. He states that he received his accident in the middle of last February, by the fall of a bank of earth upon the limb. His left femur was broken obliquely in its lower third, together with both bones of the leg of the same side a short distance below the knee. After a treatment of seven or

eight weeks, with long splints (probably Desault's) he was suffered to get up and move about, the union of the bones of the leg being firm, though somewhat deformed, while the thigh was much deformed and un-united. In August he set out from Ohio for Philadelphia and performed one half the distance on foot, with the aid of crutches. On admission, the left limb was found to be two and a half inches shorter than that of the opposite side. The lower part of the thigh was enlarged owing to a great mass of callus which had been thrown out around the seat of fracture, and was much bent outwards, the lower fragment being drawn to the outer side of the limb. When placed in the erect position he was unable to bear any weight upon the limb, and upon attempting to do so the motion of the lower upon the upper fragment, was very evident both to the patient and observer. Strong extension had no effect in bringing down the limb to its natural length, and all that was proposed by the treatment was to produce union of the fragments, and if possible a diminution of the deformity, by rest and pressure, without attempting to remedy the shortening. For this purpose a roller was applied from the toes upwards, after which strong pressure was made over the projecting portions of bone by means of a bandage secured to a well padded long splint placed upon the inner side of the limb. This apparatus was continued until October 14th, the bandage being tightened every few days. At this date the limb was found to be free from swelling, and the deformity evidently less. Union also appeared to be firmer. The apparatus was reapplied, and in order to keep up as much pressure as the patient was able to bear, a tourniquet was applied immediately over the point of fracture. On the 31st of October the apparatus was removed for the purpose of accurate examination, and it was found that the limb was lengthened half an inch since the commencement of the treatment; that the deformity was less, apparently from absorption of a portion of the callus which had been deposited on the outer part of the limb, and that no motion could be discovered at the point of fracture, or any grating sensation perceived when the weight of the body was borne upon it.

In the first of the above cases, absence of union may be attributed to want of proper treatment, the splints having been so applied as not to keep the parts in a state of perfect rest. In the second instance the treatment had been also defective, as was shown by the great deformity which had occurred at the seat of fracture, but whether want of union in the fragments can be set down altogether to this cause is doubtful; the fracture of the leg which occurred on the same side having united firmly, though subjected to precisely the same treatment as that of the thigh. Where more than one fracture occurs in the same person we not unfrequently observe firm union to take place in one, some time before the same process is completed in the other, and it is probable that, had a state of rest been continued for a short time longer the bones would have firmly united. The practice pursued in both instances of making pressure over the part and putting the extremity at

perfect rest, is that best adapted to cases of un-united fractures which have existed but for a few months, and should be always resorted to in young persons, or cases of the kind mentioned, previous to performing any of the more serious operations which have been proposed for this accident. Where pressure directly over the seat of fracture is made use of, the tourniquet is, I think, preferable to the roller, as by means of the screw, a more equable degree of pressure can be kept up, and if pain or other unpleasant symptom follow its application, can be loosened without putting the surgeon to inconvenience.

Rupture of the Ligament of the Patella.—James Hughes, ætat. 30, was admitted on the evening of July 13th, for an injury of the knee received a short time previously by a fall from a height of eight feet into a well. He states that his limb was strongly flexed at the time of the fall, and that he struck the ground with his knee. Though suffering great pain he was able to seize a rope which was lowered to him, and allow himself to be drawn up to the surface, but on attempting to rise upon his feet he found that he was unable to support himself on his left limb. He was immediately removed to the hospital, where upon examination by the resident surgeon, a hollow was observed over the knee which on first sight was supposed to result from fracture of the patella, and separation of the fragments, but which on close examination was seen to proceed from a rupture of the ligament of the patella and a consequent displacement of that bone upwards. On the following morning, when I examined the limb, although some swelling had occurred, I found a deep depression existing immediately above the tubercle of the tibia, and the patella drawn up to the extent of an inch and a half. This bone admitted of a much greater degree of lateral motion than that of the sound side, could be distinctly traced, and was found to be uninjured. The treatment consisted in extending the limb upon a splint, and applying a roller from the foot upwards, which was passed around the knee in such a manner as to draw down the patella towards the head of the tibia. The limb was then placed on an inclined plane, and cold applications applied over the knee. On the 15th, as a good deal of swelling and pain existed, leeches were applied to the part; after this date under the use of extension and a bandage with an evaporating lotion to the knee, the patient continued to do well. On the 27th, he left the house at his own request, preferring to be at home with his family. The patella at the time of his discharge was occupying its natural position, and a considerable hardness could be felt in the space between its lower edge and the tubercle of the tibia.

So strong are the fibres of the ligamentum patellæ as well as its attachment to the tubercle of the tibia, that it most generally happens that the patella itself gives way sooner than a rupture of this ligament shall occur. The above, however, is a well marked example, in which the contrary had place giving rise to that rare form of accident, dislocation upwards of the patella.

The rupture was in this case evidently not produced by muscular contraction alone, though it is more than probable that the strong contraction of the muscles of the leg during the fall, aided materially in its production.

Comminutive Fracture of the Fore-arm, with simple fracture of the arm of the same side; lacerated wound of the foot with fracture of two of the metatarsal bones.—Partial dislocation of the patella outwards, accompanied with rupture of the internal lateral ligament of the knee and partial rupture of the ligamentum patellæ.—John Scanlin, ætat. 32, of temperate habits, was admitted on the evening of August 27th, in consequence of injuries received a short time previously from becoming entangled in machinery worked by steam, while attempting to place a belt upon a drum. The most serious injury which he suffered was in the left upper extremity, the humerus of which was fractured near the insertion of the deltoid, at the same time that a comminuted fracture of both bones of the fore-arm existed about the middle, accompanied with extensive laceration of the integuments and muscles. In addition to this, there was a lacerated wound three or four inches in length on the dorsum of the right foot, accompanied by fracture of two of the metatarsal bones. He complained greatly of the knee of the left side, and upon raising the limb and seizing firmly the lower extremity of the femur, the leg could be pushed considerably outwards, and a separation between the internal condyle of the femur and head of the tibia sufficient to admit the insertion of the end of the finger, was evident, which disappeared upon the force applied to the leg being discontinued. No fracture of any of the bones existed. The patella was partially dislocated outwards, its outer edge being much raised and resting on the side of the external condyle of the femur, while its inner edge was depressed, and firmly fixed in the hollow between the condyles. A considerable depression existed between the tubercle of the tibia and the lower end of the patella, at the middle and inner side of the knee, evidently produced by a rupture of the ligamentum patellæ in nearly its whole extent. Scarce any swelling of the knee was present. The patient lay with the limb moderately flexed. By extending the limb and making strong pressure upon the upper edge of the patella, the bone could be replaced, but when the force was relaxed, the displacement again occurred; skin moderately warm; pulse 92 and feeble; voice whispering. One hundred and twenty drops of laudanum had been administered in two doses. The left limb was placed in a long fracture box and lead water applied to the knee. The sides of the wound of the left foot were drawn together with adhesive plaster, and the leg put into a fracture box. The severity of the injuries of the arm was such as to render amputation necessary, but as the patient had not reacted sufficiently for the performance of it, the sides of the wounds were simply drawn together, and the limb lightly supported in an easy position. Moderate stimuli and the application of mustard to the extremities had already been made use of, and were continued. On the following morn-

ing Dr. Randolph saw the patient in consultation with me, but not finding him in a condition fit to undergo an operation, amputation was deferred. By the 31st, his general symptoms had so far improved that the removal of the limb was determined on, and was done immediately above the seat of fracture by the circular method. At this time no swelling or redness existed at the knee; the foot had commenced suppurating and was poulticed.

September 1st. Slept well; profuse discharge of bloody serum from the stump; so great as completely to saturate the dressings and pillow upon which it lay. The dressings were removed and loosely reapplied; stump swollen and red; no pain, swelling or inflammation in the knee. The wound in the foot presents a sloughy appearance with redness and swelling around it, and is extremely painful. The leg was removed from the fracture box, and placed on its side upon a pillow, in order to favour the escape of the discharge which collected at the bottom of the wound. Poultice to foot; morphia was freely administered and his diet was increased.

4th. Sleeps well; pulse soft, 92; skin pleasant; tongue clean and moist; stump is red and swollen; lips gaping, and a large discharge of healthy pus from it; no swelling, pain or redness about the knee; the foot is still red and swelled around the wound; the slough of which is not yet separating; treatment continued.

6th. Had a chill this morning; skin is now hot; tongue dry; the stump is less swollen and red; the wound in the foot is painful with a good deal of redness and swelling around it, and discharges more freely. No inflammation of the knee; the bowels are kept regular by enemas. Mist. neutral. in addition to other treatment,

11th. General symptoms good; stump now presents a good appearance; the foot is less swollen but is very painful when disturbed; the wound is now clean, and the granulations present a healthy appearance.

By the 10th of October the stump had healed, and all dressings were omitted. From this date up to the 1st of November, Scanlin continued to improve; at the time of my leaving him, a good degree of motion existed at the knee joint, which was in no way inflamed or painful; the wound of the foot had diminished greatly in size, and was fast cicatrizing, and his general symptoms were good.

Incised Wound of the Wrist with division of the Ulnar Artery; Ligature of both ends of the vessel.—Cure. Augustin Tuistin, ætat. 24, was admitted August 13th, for a small wound on the outer side of the wrist, in which the ulnar artery was divided, produced by a cut with a broken porter bottle. Both ends of the injured artery were taken up, and the wound dressed with adhesive plaster, and the limb secured on a splint. On the 17th, erysipelatous inflammation occurred about the wound which extended above the elbow. The arm was now elevated, and gently bathed with lin. saponis, a poultice

being applied to the wound. In a few days the inflammation subsided, and by the 12th of September cicatrization was perfect, and the patient soon after left the house.

Incised Wound of the Palm of the Hand; Hæmorrhagies three weeks after the accident; ligature of the Radial Artery; return of the Hæmorrhage on the 8th day after its application.—Cure by pressure.—Hugh Lewis, a healthy farmer, was admitted July 22d, on account of hæmorrhage, from a wound in the palm of the hand. He states that four weeks since, he received a cut with the end of a scythe in the fleshy part of the palm about an inch below the end of the radius. The injury was followed by considerable hæmorrhage, which was arrested by means of pressure on the part. The wound from the time of the accident gave no trouble, though it did not cicatrize, until eight days since, when considerable hæmorrhage took place from it. This was repeated at different times during the day, and the following morning he came to the city and applied to a surgeon, who in order to arrest it, secured the radial artery just above the wrist. After this he returned home and continued to do well until the night before his admission into the hospital, when the wound again bled profusely, and was only arrested by making very considerable pressure upon the wrist as well as over the wound. After admission, the pressure which had been hurriedly and irregularly applied, and which caused great pain, was removed, and the wound which was not above half an inch in length was sponged off, but no bleeding took place. The ligature upon the radial artery, had not yet separated; the incision made in order to secure it had not united, and its edges were much swollen and inflamed, as was also the back of the hand. Moderate pressure, by means of graduated compresses and a bandage, was made over the wound and lower part of the ulnar artery, and the hand and fore-arm were secured to a splint and elevated, and cold applied. Tinct. opii, gtts. xl, given, and absolute rest in bed enjoined.

23*d*. No return of hæmorrhage; hand not painful, cold continued.

24*th*. Cold and the elevated position are continued; has been no hæmorrhage; wound not disturbed.

25*th*. Bandage removed; wound suppurating freely. The dressings were re-applied, and the limb again elevated.

On the 27th, the wound was dressed with simple cerate. On the 1st of August the ligature from the radial artery, came away; the wound and ulcerated surface over the front of the radius were nearly closed. Splint omitted. By the 7th, the part was completely cicatrised, and the patient was discharged.

Wounds of the arteries about the wrist or in the palm of the hand, even where apparently trifling, are not unfrequently the cause of much anxiety to the surgeon, and are sometimes followed by unpleasant results. If the wound be large, and the divided ends of the artery from which the hæmorrhage proceeds can be readily come at, the propriety of securing by ligature, both

ends of the vessel is, I believe, conceded by all; but when the wound is so small as to assimilate itself to a simple puncture, or is deep, or accompanied by severe inflammation of the parts around, it is impossible to do this, and the practice generally followed in such cases, where there is a recurrence of the hæmorrhage, is that which was pursued with Lewis, viz: ligature of the vessel above the point of injury. Where the case is recent, this method is mostly successful, but when any length of time has elapsed since the injury, particularly in wounds of the palm, where the anastomoses between the vessels are free, it very frequently fails, the hæmorrhage after a time returning by the inferior end of the vessel. The employment of graduated compression upon the vessels of the fore-arm as well as over the wound, was in the above case fully successful in preventing any return of the hæmorrhage, and is applicable to most similar instances, but in all cases in which this is trusted to, it should be recollected that to ensure success, the pressure must be well and evenly applied, and a state of perfect rest secured to the limb by means of a splint; elevating the limb, too, is a most important matter where this method is pursued.

Luxation of the Humerus of three months standing; unsuccessful efforts at reduction.—David Mercer, weaver, ætat. 59, very muscular, was admitted July 6th for a forward luxation of the head of the humerus of three months standing. He states that the accident was produced by a fall received while carrying a heavy basket on the shoulder, in doing which the arm was necessarily elevated and thrown behind the central line of the body, and the force of the fall was received on the inner and lower end of the humerus. The medical gentlemen who saw the patient after the accident, supposed the injury to be a simple contusion only, and made no efforts to reduce it. The symptoms peculiar to this species of luxation were well marked. A depression existed beneath the acromion, with a general flattening of the shoulder—the elbow was directed backwards, was widely separated from the side, and could not be made to approach the trunk—the arm was shortened about one inch, and there was an inability to carry it inwards. The head of the bone, too, could be plainly felt below the clavicle, and did not admit of a great degree of motion. Although doubtful of success, I thought it proper to make an effort to reduce the bone, and did so on the day of his admission, after making him fully aware of the pain and risk to which he would be subjected in our attempt, as well as the chances of failure. Extension and counter extension were made in the usual manner with the pullies, (downwards and backwards) and the patient's muscular system completely relaxed by free bleeding and the use of tartar emetic, but after continuing a strong degree of force for nearly an hour, occasionally attempting to break up the adhesions by rotating the limb, I desisted, at the request of the patient, from further attempts, and on the 10th, he left the house with the bone unreduced, though with a much greater degree of motion than he had upon entering it.

Injuries of the Hip.—Three cases of faulty diagnosis in affections of the hip came under notice during the term. The first was a case of coxalgia, mistaken for luxation, in a patient ætat. 12, who was brought to us from a neighbouring state. A short time previously, he had been suddenly attacked with lameness in the right limb, which was attributed by his friends to some injury received a short time before in play. Two physicians, who had been called in to see the boy, pronounced him to be labouring under dislocation of the hip, and had made two strong efforts with the pullies to reduce it; but after causing great suffering, they gave up all hope of replacing the bone, and sent him to Philadelphia. The symptoms were all those of disease of the hip joint, in its early stage. The attitude was that assumed by those labouring under coxalgia. The left limb was apparently lengthened, though accurate examination, with the patient placed on his back, and the spinous processes on a line with each other, showed the limbs to be of equal length; the appearance of lengthening being produced solely by an inclination of the spine to that side; the left buttock was flattened, and the motions of the joint were found to be perfect, though executed by the patient with extreme caution, and causing some pain.

The second case was that of a healthy boy, presented for admission, who had been confined to bed, and treated during some months, for fracture of the neck of the thigh bone. His injury had been produced by an empty wagon passing over his limb. Upon examination, his right limb was found to be about two and a half inches shorter than that of the opposite side; the head of the bone could be traced on the ileum, the toes were inclined inwards, and it was clearly perceptible that a dislocation upwards and backwards existed. No pain was produced by the handling of the limb, nor was inflammation, swelling, or any other symptom of disease about the parts present.

The third case happened in our own practice, and was that of a man, ætat. 35, admitted with an injury of the hip, produced by a fall from a height upon the part. Great pain was suffered in any attempt to move the limb, but the usual evidences of fracture of the neck of the bone were absent, and the case was looked upon as one of severe contusion. After some days, however, eversion of the toes and shortening of the limb, which was found to have occurred, left no doubt as to the true nature of the accident. Desault's apparatus was now applied, and the limb drawn down to its natural length. Slight ulceration of the heel, however, followed and prevented a sufficient degree of extension from being kept up, and the patient will have some shortening of the limb.

Although the signs by which luxations and fractures of the neck of the thigh bone may be distinguished from each other, and from simple contusions and diseases of this part, are dwelt upon in all treatises on surgery, and are made out to be readily distinguishable and well marked, yet all practical surgeons are aware of the difficulties of diagnosis sometimes attendant upon the various injuries about the hip upon actual inspection. The true nature

of the injury in these cases is often more evident some hours or days after the receipt of the accident, than immediately after its occurrence, and I am inclined to think that the necessity of close *secondary* examinations, in all instances in which there is room for a doubt as to the nature of the injury, are not sufficiently insisted on. Had careful examinations of the first two of the above cases been made the day following the receipt of the injuries, it is hardly possible that their true natures would have been mistaken, and the symptoms of fracture in the third case were only detected after a lapse of some days, though this injury was at first suspected and the patient attentively examined. It is, however, more particularly where fractures may be suspected that these repeated examinations are demanded.

The following cases of fracture of the hip, which I witnessed a few years ago, are interesting, in connection with those just given, on account of the difficulty of diagnosis, and are well calculated to show the necessity of close and repeated examinations in all injuries of this part.

John Henrick, ætat. 52, was admitted, Nov. 27th, 1831, for an injury of the hip received by falling down a few steps. He complained of excessive pain about the joint, and was unable to rise, or in any way use the limb. Accurate measurement from the anterior superior spinous process to the internal malleolus, showed the limb to be of the natural length. No deformity existed about the joint, no crepitus could be detected, and the toes were not thrown outwards. The injury was looked upon as a contusion only, and rest, and the application of cups were the remedies prescribed.

On the fifth day after his admission he had a severe attack of mania a potu, and during his delirium was out of bed, stood upon and moved his limb considerably. Having recovered from this attack, he was sent back from the room to which he had been removed, to the surgical ward, and it was then found that the limb was shortened a full inch and a half; and the knee and toes everted, though a daily examination of the limb up to the time of this attack showed nothing amiss about it. The case was now supposed to be one of dislocation; but, upon accurate examination, was discovered to be a fracture through the great trochanter.

In January, 1831, another case, very similar to the above, occurred in a patient ætat. 38. When admitted, he had great pain in the hip, but the toes were not everted; no crepitus could be detected, and on accurate measurement, no shortening of the limb was observable. A short time after his entrance, he also was attacked with mania a potu, and on recovery, shortening was discovered. Desault's splints were applied with the effect of counteracting in a measure the shortening, and the man left the hospital on the 20th of April, walking with a stick.

The exact length of the limb on entrance, with the natural position of the foot, and absence of any deformity, or crepitus, led to the supposition, in both of the above cases, despite the great pain suffered, that simple contusions only of the part existed, and this idea was confirmed at the commence-

ment of the attacks of mania a potu, upon seeing the men up and moving about the room; but after recovery from their attacks, the eversion of the foot led to an immediate examination, when the shortening was found to exist, which, in connection with the symptom just mentioned, could only be caused by fracture of the neck of the bone. In both cases the fragments must have been interlocked in such a way as to have prevented any shortening or motion, and so remained till the delirium occurred, when the violent efforts made to use the limb, unlocked the parts, and permitted the lower fragment to be drawn upwards.

Previously to witnessing these cases we had believed it impossible for a patient with fracture of the neck of the femur to walk upon the limb; but upon examining the records of our science on this point, I find that similar instances are noted. Sabatier, in tom. 4 of the *Mémoires de l'Acad. de Chirurg.*, has recorded an instance in which the patient walked home, and even got up the next morning, after an injury of this kind. Desault states that he has seen similar cases. Boyer says that he saw a man who was able to walk with the aid of a stick during several days after a like accident.—Dr. M'Tyer, in the 4th vol. of the *Glasgow Med. Journal* details a case of injury of the hip, which had not confined the patient from her usual occupations, but which was proved upon dissection, three months after, to be a case of fracture within the capsular ligament.

Since the occurrence of the cases I have described, Mr. Syme, in the *Edin. Med. and Surg. Journ.* for 1836, and M. Malle, in his *Clinique Chirurgicale*, have each given a case of fractured neck of the thigh, in which the patients walked some distance after it; and I have myself seen another hospital patient, with a similar fracture, (proved by post mortem examination,) who assured me that he had walked some squares after the occurrence of his accident.

Enlargement of the Tonsils.—Excision.—Cure.—M. J. Rodgers, ætat. 16, enjoying apparently robust health, was admitted, July 14th, for enlargement of the tonsils. She states that for several years past she has been subject to repeated attacks of sore throat—has for a long time observed that her enunciation was constantly becoming more difficult, and has a constant uneasy sensation in her throat, and frequently, when in the recumbent position, difficulty of respiration. Upon examinatiou, the tonsils were found to be considerably enlarged, with a general redness of the back part of the throat. On the day after entering the house, the left tonsil was excised by means of the sector tonsillarum of Dr. Fahnestock. Six days afterwards, the tonsil of the right side was removed. The hæmorrhage resulting from these operations was trifling, and the slight soreness of throat which followed was entirely removed after a few days. She was discharged cured, August 24th.

Cancer of the Breast in a Male.—A. C., ætat. 61, was admitted, July 18th, for cancer of the left mamma. He states that fifteen years since, while

in the act of loading a cart with wood, he was struck in the breast by a heavy log. Soon after this, a small lump, not much larger than a pea, was observed by him at the part, which was hard and apparently loose beneath the skin, and not painful. For some years this never increased; but during the last eight or ten years, when the part was at all pressed upon, or rubbed by his suspender, it would inflame—at times so much so as to induce him to apply a soft poultice to it, which always speedily removed it. During this period, too, it increased very slowly in size. At present, the tumour is about the size of a small apple—is extremely hard, and in no way adherent to the parts beneath—is not painful when handled, and has a small and very superficial ulceration on its outer part. He states that the tumour attained the size which it now has during the last summer, and that the slight abrasion of its surface occurred three weeks since. The skin covering the tumour is in no way discoloured, and but a single lymphatic gland, immediately above it, can be discovered to be enlarged. General health good. Removal of the tumour was recommended, and the operation was done on the 20th; the tumour being surrounded by two elliptical incisions and dissected out. The sides of the wound were brought together with adhesive strips, and covered with lint and a roller. On cutting into the tumour, it was found to consist of a whitish shining mass, almost of the consistence of cartilage, which gave a crying sound when divided by the scalpel, and showed numerous white striated bands running from its centre into the surrounding cellular structure.

The wound united kindly, and by the 18th of September cicatrization was perfect, and a few days afterwards the man left the house.

Tumour on the upper and outer part of the Leg simulating Aneurism. —Ligature of the Femoral Artery.—Supposed cure.—Return of the patient thirteen months after with a Tumour of greatly increased size, occupying the same situation. — Amputation of the Thigh. — Cure.— James Russel, ætat. 32, entered the hospital on the 10th of August, 1838, for a pulsating tumour, seated on the outer and upper part of the left leg. He stated that about six months before, he fell, while walking over slippery ground, and struck his knee against a stone. The fall produced no division of the skin, but caused severe pain; this, however, soon went off, and he continued to work at his business (powder making), until three months previous to applying for advice, when he was obliged to quit his employment on account of pain in the part. Soon after his fall, he noticed a slight swelling on the outside of the leg, a little below the knee, which has been, from the period of its first appearance up to the present time, slowly increasing. The pulsation he states first to have perceived about three weeks after his fall. Upon examination, a flattened, circumscribed, soft, pulsating tumour was found to exist on the outer side of the limb below the knee, and directly over and between the heads of the tibia and fibula. The surface covering it was reddened, but this the patient accounted for by its having been repeatedly

blistered while under treatment in the country. The swelling was hot, and at times painful, even when he was perfectly quiet, frequently being so severe as to awaken him from a sound sleep. The limb was entirely free from œdema, and from the knee down it was hotter than that of the opposite side. The femoral and popliteal arteries of the diseased side, as well as the other superficial arteries, and the heart, appeared perfectly natural. On arresting the circulation in the ham or front of the thigh, all pulsation in the tumour ceased, and by pressure at this time it could be made to disappear, though on allowing the blood again to resume its course, the tumour quickly returned. The heads of the tibia and fibula were painful when pressed upon at the edges of the tumour. The motions of the knee joint were in no way interfered with. The pulsations of the anterior tibial artery near the foot could be readily felt, and were natural. On applying the ear or a stethoscope over the tumour, a strong impulse was received, but no particular sound could be perceived in it. The sound limb over the tubercle of the tibia measured twelve inches, the diseased one at the same point, twelve inches six lines. The tumour itself measured upwards of three inches in its long, and nearly three in its lesser diameter. The general health of the patient was good.

From the situation of the tumour and appearances detailed, the disease was judged to be an aneurism arising either from the anterior tibial artery near its commencement, or from the first branch sent off by that vessel, the recurrent tibial.

The patient was put to bed with the limb supported by a pillow in a fracture box, and moderate pressure was made on the tumour by means of a roller applied from the toes upwards. The pressure, however, the patient was unable to bear, on account of increased pain in the tumour, and was in a short time omitted, and the limb merely kept quiet in a box, with an evaporating lotion to the swelling, the intense heat of the weather preventing an immediate resort to an operation.

By the 20th of September the swelling had increased in size, and its pulsations were much stronger. In consultation it was now determined to take up the femoral artery, which was accordingly done on the 22d. The artery was exposed in the usual manner, in the middle of the thigh, and a ligature passed around it and firmly tied. A small venous branch lying directly over and close to the femoral, as well as a small artery at the upper part of the incision, were opened in exposing the vessel, and were both secured by ligatures. Upon tightening the femoral ligature, the tumour visibly diminished in size, and the skin of the leg became paler. The sides of the incision were brought together with adhesive plaster, and covered with lint, both ends of the ligature hanging out. The limb was enveloped in carded cotton, and gr. ¼ sulph. morphiæ was given to him. An hour after the operation he was free from pain, with a pulse of 84. At 6, P. M. pulse 88; has slept most of the afternoon; limb warm as low down as the ancle, no pain; sensation perfect. Gruel and barley water for diet.

23*d.* Passed a good night; pulse 84; skin and tongue moist; the foot and leg of the left side a little warmer than that of the right; lies with his limb on a pillow slightly flexed; some uneasiness in the lower part of the abdomen, which was relieved by a common injection. Rigid diet and perfect rest enjoined. Tumour without the slightest pulsation, and patient states it to have been free from all pain since the operation.

24*th.* Slept a part of the night. Yesterday afternoon and evening was troubled with flatulency, for which carb. potass. and aq. cinnam. were administered and the injection repeated. No pain in the limb, the temperature of which continues rather higher than that of the opposite side; pulse as yesterday. The lint covering the wound in the thigh was removed, and union by the first intention was found to have taken place, except at the points at which the ligatures pass out. The tumour is harder, and free from all pulsation.

25*th.* No pain in the tumour or leg; no pulsation to be felt in the tumour or in the anterior or posterior tibial arteries; limb still rather warmer than that of the opposite side; no fever; slept well; pulse natural.

29*th.* Very slight pulsatory motion can be felt in the anterior tibial and popliteal arteries; no sort of motion exists in the tumour, which is much harder and not painful when examined; temperature of the limb appears to be the same as that of the opposite side; pulse 80; a drop or two of pus continues to be daily discharged from the wound; the limb is still kept on its outer side moderately flexed; a large pillow is to day so placed beneath it as to make pressure upon the tumour.

30*th.* The pressure of the pillow on the tumour caused the whole limb to become very painful during the night, and it was removed. General symptoms continue good.

October 5*th.* No pulsation or pain in the tumour, which is firmer within the last few days than it has yet been. A drop or two of pus continues to be discharged daily from the wound. Slight pressure on the tumour with the pillow has been continued since the 3d. Bowels regular; appetite is good, but his diet is restricted to gruels.

8*th.* (17th day.) For the first time, a very slight movement can be felt in the tumour at its upper anterior part. The lower part of the tumour is very hard, and no sort of motion can be perceived there. No fever or pain in the limb or tumour. No pulsation in the anterior tibial. Diet or position have been in no way changed. Slight compression upon the tumour by means of a bandage from the foot upwards.

9*th.* The femoral ligature came away to day. A very sensible pulsation exists in the tumour, at both its upper and lower parts. No pain in the tumour. About three hours after the application of the pressure yesterday, the patient became so restless and complained so much of pain in the part, that it was removed. The swelling is better, and the skin covering it redder than the rest of the limb. Temperature of the foot and leg is the same as that of the healthy side. Pulse natural. Cold, applied by means of a

compress dipped in ice water and frequently renewed, was put to the tumour, and continued through the night.

10*th*. Pulsation is still very evident in the tumour, but, at its upper part, it has become harder. The application of cold is not productive of pain, and is continued. Rigid diet and rest is still insisted upon.

12*th*. The tumour is harder in its whole extent; pulsation is still to be felt, but is not so strong as it has heretofore been. No pain in the tumour or leg. Pulse 78. Temperature of the limb is good. Ice water continued, and ten drops of tinct. digitalis given three times a day.

14*th*. Pulsation is less distinct, and the tumour is becoming harder. Pressure over the tumour by means of a layer of lint and the bandage of Scultetus, the cold being continued over it.

15*th*. Distinct pulsation cannot now be felt in the tumour, but only a sort of undulatory movement. Bears the pressure well, which is continued, and is increased. Cold continued.

17*th*. (26th day.) No sort of movement can be felt in the tumour, and does not complain of the pressure. Digitalis has not affected the pulse, and is omitted.

18*th*. The tumour continues free from movement, and has much diminished in size. Pressure is re-applied with a thick compress.

From the last date until the 31st of October, the period at which he left the hospital, to return home to Wilmington, Delaware, the tumour continued gradually to diminish in size and become harder, and was entirely free from pain or movement of any sort.

On the 7th of September, 1839, nearly eleven months after his dismission from the hospital, Russel returned to us with a very considerable tumour occupying the upper part of the leg. Above it, the patella and condyles of the femur could be distinctly felt, and were in no way involved in it. The limb was held moderately flexed, and though the patient was unable to extend it, yet some motion existed at the knee. Any efforts at motion were attended with much pain. The tumour was spherical in its general form, and the skin covering it was natural in colour. Numerous large veins were to be seen running over it. To the touch, the tumour in some points was soft and elastic, while in others it was of a bony hardness. This hardness was particularly great over the seat of the old pulsating tumour. The whole swelling was painful upon pressure. No general pulsatory movement existed, though slight pulsation was perceptible in some points when pressed upon, but was believed to arise from some small arteries which could be traced running over its surface. Slight enlargement of a single gland in the groin could be perceived. The general health of the patient continued to be good, though he was considerably thinner than upon his first entrance into the hospital. The circumference of the tumour at its middle part was sixteen inches, and its greatest length was five inches.

On the 16th of October, the thigh was amputated near its middle, by the circular method. The limb was very vascular, nineteen arteries requiring

ligature. Union by the first intention was attempted, the sides of the stump being brought together with adhesive strips, and lightly covered with charpie and a bandage.

During the night hæmorrhage from the stump, judged to be to the amount of twenty or twenty-five ounces, occurred, and five additional ligatures were applied. Notwithstanding the debility occasioned by the hæmorrhage, and the irritation caused by a removal of the dressings and search after the bleeding vessels, he from this time went on improving. The discharge from the stump was at one time large, and some redness occurred over the end of the bone; but, at the present date, (Dec. 18th,) the stump is cicatrized, and presents a sound appearance, and the general health and appearance of the patient is good.

A very detailed account of the appearances which the tumour offered on dissection, was drawn up and presented, along with the specimen, to the Pathological Society, by my friend Dr. Stillé, and may be found at page 256 of the previous number of this Journal.

Remarks.—The case just detailed is on several accounts interesting. The strong pulsation of the tumour which was distinctly circumscribed, the ease with which it could be emptied by pressure and the quick return of pulsation in it upon the removal of the force exerted, together with its situation immediately between the heads of the tibia and fibula, the good general health of the patient and the history of its origin, all led to the belief that the disease was an aneurism arising either from the anterior tibial artery, or from its branch, the recurrent tibial. In this belief the femoral artery was taken up for its relief, and the entire cessation of pulsation in the tumor, the diminution in the swelling, and its greatly increased hardness after the operation, all induced us to think that we had produced by it a cure of the affection. Our only fear was that the long continued pressure of the aneurismal tumour had produced either absorption or caries of the soft ends of the bones, and that a too early use of the limb might eventually bring on disease of the knee joint.

The appearances presented by the limb, on his second admission into the hospital, made it evident that the disease was one of malignant character, and the dissection clearly proved it to be a tumour of the fungoid kind, arising from the medullary tissue of the tibia. The cause of the very distinct pulsation upon his first admission can, I think, only be explained by supposing an artery to have given way in consequence of ulceration, or rupture from a diseased state of its coats, which pouring out its blood into the soft matter forming the tumour, produced a state resembling a circumscribed false aneurism.

That the ligature of the femoral artery exercised considerable influence in diminishing the rapid growth of the tumour, and in arresting its progress during some time, I am well persuaded, though had I been aware of the true nature of the disease I should not have thought it justifiable to have resorted to this measure.

A case precisely similar in all respects to the above, is related by Dupuytren, in the fourth volume of his *Leçons Orales*, in which he took up the femoral artery, and afterwards was obliged to resort to amputation of the thigh. Another case is given in the 120th No. of the *Edinburgh Med. and Surg. Journal*, in which the tumour occupied the head of the humerus. The disease was mistaken for aneurism, and the subclavian artery tied. Hæmorrhage supervened, and the patient died. A third case is reported by M. Lallemand, of Montpelier, which it is not in my power now to refer to, and these three are the only instances of similar disease arising from the bones, attended with a distinct pulsation, as if the tumour were aneurismal, with which my reading has furnished me, unless the cases recorded by Mr. Pott and M. Pelletan can be considered as of a similar nature. This I am inclined to believe, though the want of detail in the post mortem appearances prevents a positive conclusion on this point. Mr. Pott describes his case as "a dangerous disorder of the middle or upper part of the leg, produced, or attended with a bursten artery," for which he considers amputation as the only remedy, and describes the muscles as converted into "a strange morbid mass," and the bones as "more or less carious." M. Pelletan describes the disease under the name of "aneurism of Pott." In the first case mentioned by him (Pochard) the disease was seated on the inner face of the fore-arm, and after three unsuccessful operations for its cure, amputation was resorted to with success. In his second case the disease occupied the same situation as in the instance which I have related, and in it, after laying open the part, it was found necessary to amputate the limb.

Art. II.—*Observations on the Employment of Cimicifuga in the Treatment of Chorea.* By T. S. Kirkbride, M. D.

The Cimicifuga* is well known in many parts of this country under the common name of *Black Snake Root*, and although used for many years, in domestic practice, was first brought before the profession as a remedy of value in the treatment of chorea, by Dr. Young, of Chester County, Pennsylvania, in a paper published in the 9th volume of this Journal. To this paper, it may be recollected, was appended a note by the Editor, stating that the plant had been employed with success in the treatment of the same disease, by the late Professor Physick, many years before.

Chorea, fortunately, is a disease of such infrequency, that scarce any one practitioner is able, from his own experience, to decide positively upon the comparative value of different remedies; and it is to induce the profession to

* *Cimicifuga Racemosa*, Nuttall, Torrey. *Cim. Serpentaria*, Pursh. *Actæa racemosa*, Willdenow. *Macrotys racemosa*, Eaton's Manual. *Vide* United States Dispensatory by Wood & Bache.

make further trials with the article under notice, that the writer offers this short abstract of the cases that have come under his own observation, and from which, he is persuaded, the cimicifuga possesses powers of some importance.

The first two cases that came under our notice, after the publication of Dr. Young's paper, occurred during our residence in the Pennsylvania Hospital. One was a lad about ten years of age, and the other a girl of thirteen. In both patients the symptoms were well marked and of some standing. After coming under our care, the treatment consisted of free purging for a few days preparatory to the use of the powdered root of the cimicifuga, in the dose of a teaspoonful three times a day, and frictions over the surface of the body generally. No other remedy was employed, and the improvement which commenced almost with the use of the root, continued till the perfection of the cure, which was in about four weeks in both instances.

The next case we had an opportunity of treating, was in private practice, during the summer of 1835. The patient, a delicate girl, ten years of age, had decided symptoms of chorea, but of short duration. After free purging she took a wine glass full of a decoction of cimicifuga three times a day, and gradually increased the dose. This decoction was made by boiling one ounce of the root in a pint of water for twenty minutes. Her symptoms abated promptly and the cure was complete.

In only one of the cases just noted, were the functions of the mind much disordered, but in our fourth case, which follows, the mental affection was one of the most distressing symptoms. The patient was reported to be a highly intelligent girl, nine years old, but when she first came under our care in April 1836, the expression of her countenance was that of confirmed fatuity, and her actions and conversation, were such as might have been expected from her physiognomy. She walked with great difficulty, and appeared to have lost nearly all power over both her left extremities. She had irregularity of the bowels, head ache, and often complained of pain shooting down the left arm. In this case, the symptoms had been gradually coming on for six months before we were consulted, but owing to domestic misfortunes, her widowed mother was able to give her much less attention than she deserved.

Cups were applied to the back of the head and neck, once; stimulating pediluvia were prescribed, and frictions with salt over the surface of the body. After being moderately purged, every day for a week, she commenced with the cimicifuga in decoction, rapidly increasing the dose. An improvement was evident from the first few days' use of this last remedy; her motions became less violent; control over her left side was gradually regained; the functions of the mind improved with her other symptoms, and at the end of four weeks from our first visit, to the anstonishment of her friends, and we may add, to our own, she was entirely well.

Our fifth case came under treatment in February last, and was one of ex-

treme violence. The patient, a delicate girl twelve years of age, had been distinguished among her school-mates, for industry and intelligence; but after the commencement of the attack, she lost all interest in her studies and her mind appeared nearly idiotic; her countenance changed; her tongue was often seen protruding and saliva almost constantly flowing from her mouth. Her motions were sometimes so violent, that she was unable to keep her seat, and when rolling on the floor, not unfrequently bruised herself to a considerable extent. She was unable to take a drink or to feed herself. There was no cessation of her movements except during sleep.

The treatment consisted of cups to the head and spine, with free purging preparatory to the use of the cimicifuga in decoction, which she took for two weeks without the slightest benefit. At this period she had become so prostrated that she was directed to take cinchona, and Port wine; and carbonate of iron and ginger were afterwards prescribed. The skin over the spinal column was kept irritated with Croton Oil, and active frictions were used over the whole body twice a day. Under this treatment she eventually recovered, although not until the month of June, and even yet, we are inclined to believe that there is more mobility about her, particularly when excited, than previous to the attack. It is proper to state that the use of the cimicifuga was suspended, partly, from the difficulty with which the patient was induced to take it.

By permission of our friend Dr. Otto, we are allowed to refer to a very intractable case, which occurred in his own practice soon after the publication of Dr. Young's paper. A young lady of sixteen was reduced to an extreme state of prostration by the violence and constancy of her motions, which scarce allowed her to sleep at all during weeks; she had become completely idiotic, and a fatal termination was looked for. All the usual remedies had been employed, without advantage, when Dr. Otto directed the powdered Black Snake root, as something still untried, and to his surprise, an amendment took place, which resulted in a restoration to perfect health. The cure is attributed by her experienced and talented attendant entirely to the remedy last employed.

Another case, possessing much interest occurred in the Pennsylvania Hospital, in April 1836, under the care of Professor Wood, then attending Physician. This patient was a boy about seventeen years of age, from near Dyott's Glass Works, suffering with a violent attack of chorea, and who, Dr. Wood, informs us, was entirely cured by the remedy, particularly under notice.

From these seven cases, which have, with one exception, been under our own observation, we feel satisfied of the value of the cimicifuga, in the treatment of chorea, and disposed to attribute to it powers in some other affections in which we have not yet had an opportunity of giving it a satisfactory trial. After the details we have given, it is hardly necessary to say, that we do not look upon it as a specific in chorea. We have scarce ever

met with a case where the primary treatment was not plainly indicated by the disordered digestion, the loaded bowels, the pain or heat of the head and the languid circulation of the skin. But it is also right to state, that where these symptoms have been properly treated, the involuntary muscular movements, have often continued unchanged, until after the employment of the Black Snake Root. Purging we have always used before the cimicifuga, and general frictions with salt or the flesh-brush, and pustulation with Croton oil over the spine, we have believed to be of much value in the chronic cases. Of the two preparations we have employed, we are disposed to give the powdered root the preference, and now regret that we did not administer large doses in that form in our fifth case, where the decoction certainly had no effect.

Of the cases noted in this paper, it will be observed five were girls and two boys; and of the girls only one had attained an age where deranged menstruation was supposed likely to have had any agency in the production of the disease.

In what manner the cimicifuga produces its peculiar physiological effects we have not yet been able satisfactorily to determine. In the largest dose in which we have ever given it, it has produced no perceptible excitement of the pulse, no pain or heat in the head; and in only two of the cases, trifling nausea. The bowels have generally been moderately open during the use of the remedy, which has appeared mildly laxative, without ever inducing decided purgation.

Philadelphia, November, 1839.

ART. III.—*On the Nitro-muriatic Mixture as a Remedial agent.* By JOHN P. METTAUER, M. D., of Virginia.

THE compound which forms the subject of this communication, although early employed, and highly extolled, as a therapeutic agent, by distinguished European physicians, has been in a great degree disregarded in this country. The commendations bestowed upon it by Dr. Scott, in his essay, read before the Medical and Chirurgical Society of London, March 4th, 1817, as well as the very favourable opinions expressed of its value, by Doctor James Johnson, Mr. Annesley and others, certainly entitled this compound to be more generally resorted to, by the profession, as a remedial agent. Having frequently employed it, during the last fourteen years, and, with distinguished success, in a great variety of diseases, it has occurred to us that a transcript of our experience, in conjunction with a few of the most conspicuous cases in which it was used, presented in detail, might not be unacceptable to our brethren; and would tend to awaken, in some degree, a spirit of investigation.

Our attention was first directed to the nitro-muriatic mixture, as a remedial agent, by the perusal of Doctor Scott's essay, already referred to, and by attentively reflecting on the cases treated with it by him, as well as upon the chemical properties of the mixture, we determined to give it a trial in the first case which should occur propitious to its use. Accordingly in a short time the following case was committed to our care, in which we used it.

Mr. * * *, ætat. 29, of slender person, and strongly marked lymphatic developments, had been subject for fourteen years to asthmatic attacks from the slightest exposure: indeed the constant cough and free expectoration, with more emaciation than usually attends upon asthma in ordinary cases, had induced his friends, and early medical advisers, to regard the case as tubercular phthisis of a slowly wasting character. During the protracted ill health of this young man, anorexia, indigestion, constipation of the most obstinate kind, low spirits, &c., were constant attendants. The constipation was so obstinate, and constant as to resist the action of the most powerful and certain of the ordinary cathartic remedies in a very great degree; and its long continuance had so impaired, or vitiated the secretions, as to impart to some of them a peculiar fœtor, especially the exhalations from the pulmonary mucous surface, the urine, and perspiration. The gentleman's mind suffered much also, and occasionally became so erratic in its operations, as to expose him to the sarcasm and merry jeerings, not to say cruel ridicule of the thoughtless and unfeeling. In regard to his disease he seemed on some occasions irrational and almost a mono-maniac.

A critical examination into the case, disclosed, as a part of its early history, excessive indulgence in the soul-debasing practice of onanism, by the young man; and to the pernicious effects resulting to his delicate constitution from it, we ascribed some of the unpleasant and untoward symptoms now present. It could not be perceived during any of our visits to this gentleman, that he laboured under fever of marked character: and from his own testimony, and that of his friends, we were forced to the conclusion, that there was an absence of it, though we believe something like febricula must attend upon the case.

Before this case passed into our hands it had been treated by a variety of modes of practice, without affording the gentleman the least relief. Purgatives had been freely employed, but they failed to ameliorate the condition of the bowels, or any of the other symptoms of the case. Notwithstanding such had been the unfortunate result of purgative remedies, we determined to give them a trial ourselves, hoping by some combination, that we might be so fortunate as to meet the indication now present. We employed almost every variety of cathartic, again and again, combining them in various ways, repeating them after intervals more or less lengthened, but without being able to effect any salutary change in the condition of our patient. The cathartics, generally, acted so imperfectly, as very soon after com-

mencing with them, almost to induce us to lay them aside. They were, however, faithfully tried by the patient, who, as some of the means employed were new to him, felt to the last, much reluctance in giving up the purgative plan.

In this state of the case, after five weeks trial with internal cathartics, it occurred to us to make an experiment with the nitro-muriatic mixture. We formed the mixture of equal parts of nitric and muriatic acids and water: of this, from six to twelve drops properly diluted with sugared water, were administered through a small canula of reed, to prevent its action upon the teeth, three times during the day, varying the doses, so as to give the largest at noon, and at night. At the same time from thirty to fifty drops, diluted in two or three times as much simple water, were applied with a sponge over the regions of the liver and epigastrium, and to the insides of the arms, and thighs, having previously washed away from the skin, with soap and water, its unctuous secretion, to enable the acid mixture more readily to penetrate. In this manner the remedy was continued for three days, before any decided impression was formed upon the constitution by it. About the close of the third day, some improvement of appetite, and of the buccal secretions was manifested. But on the morning of the fourth, to the surprise and gratification of our patient, the bowels acted freely, and seemed as he expressed it "just to have waked up from their long sleep." On this day we visited the gentleman, and found him greatly relieved, in body, as well as in mind. For two or three days, the remedy, although partially discontinued, acted rather too freely upon the bowels: after this time, however, they became more tranquil, and gradually acquired a state of solubility, of the most comfortable nature. It was found necessary in consequence of the deficiency of the biliary secretion, as manifested by the appearance of the alvine discharges, to continue the use of the acid mixture, both internally and externally for some days, after it had unlocked the bowels. It was one of the remarkable effects of the remedy in this case, and very soon after the constitution had become only partially impressed by its action, to improve the appetite and to enliven the spirits. The gentleman was now cheerful and full of hope, and able to indulge in the use of almost any kind of food, of which he partook freely, and with a good relish and keen appetite. His recovery from this time was progressive and rapid. No other remedy was ever used by this patient after commencing with the acid mixture: nor was it necessary to use that during convalescence, except when the bowels seemed to become less free, and the appetite to falter, or to decay. At the date of this communication, now more than ten years since the case was treated, the gentleman continues to enjoy excellent health, and as bouyant spirits as any person of our acquaintance, of a constitution naturally feeble and delicate.

The next case which we shall particularly detail is an example of puerperal mania.

The lady, who was the subject of this afflictive case, was about eighteen years of age, of a good constitution, and rather disposed to be fleshy. She had never until after her confinement, which preceded the attack of insanity, and which was her first, discovered the slightest disposition to mental derangement, although such an infirmity was strongly hereditary in her family. Nothing occurred during the labour, or after parturition, which could have superinduced the maniacal condition. Four weeks elapsed before any indications of disturbed health were perceived, and when discovered were so slight as with difficulty to be recognised as decidedly morbific in their nature. The earliest appreciable symptom of a departure from the ordinary healthy state peculiar to lying-in women, was costiveness in a slight degree. This state soon deteriorated considerably, and with its augmentation the lochial discharge perceptibly diminished. The condition now presented did not long continue before the secretion of milk became sensibly lessened, attended with impairment of the secretions generally, and some slight fever towards evening, which last was very soon followed by symptoms of alienation of mind, first observed at night, five weeks after parturition. We did not visit this lady in the early stage of the attack, being absent from the county at that time; but we learned on first seeing her, that the symptoms of derangement very gradually but progressively increased in violence, until complete alienation of mind followed. Without attempting a particular detail of the case in this stage we will observe, that we have never witnessed a more aggravated case of mental derangement.

Previous to our visit efforts to purge had been made, but they were rendered ineffectual by the lady's incorrigible unwillingness to use remedies. When we first saw this patient, seven weeks after the birth of her child, we found her as already intimated, perfectly deranged, with the bowels obstinately costive, which state of them had continued for more than ten days; the lochia dried up; the secretion of milk, and the secretions generally, greatly deficient in quantity; perfect insomnia, and very slight general fever. For many days in succession very little food or even drink had been taken by her, either from a want of appetite and thirst, or from the apprehension that if she ate or drank, medicine might be disguised in the food or drink.

In treating this case our first object was to obviate the continued costiveness, and we attempted to effect this end through the agency of active internal cathartic means. We found so great difficulty in the administration of these, from the resistance of the lady, that we only succeeded after ten days trial, in introducing into the stomach one efficient cathartic dose; it being now manifestly impossible to introduce cathartics into the stomach, and it was equally impracticable to employ cathartic means by enema. In this state of the case we were compelled to draw upon our inventive resources; and while anxiously reflecting on the difficulties now so well calculated to embarrass and perplex us, the nitro-muriatic mixture presented itself to our mind as more likely to aid than any other means, now available

to us, to overcome the constipation of the bowels. The remedy was speedily prepared and extensively applied, by sponging every accessible region of the extended dermoid texture three and four times daily. In this case the mixture already advised for external use was employed for three days before it seemed to make any impression upon the internal organs. During the night of the third day, however, after commencing with the sponging, the bowels gave way, and a most profuse catharsis followed, attended with dark, tar-like evacuations, and exceedingly offensive. These evacuations were soon followed by others more natural in appearance; and now it was that the lady became more tranquil, and reposed in quiet and refreshing sleep the first time for many days and nights in succession. Her mind about this time, likewise, became more rational, especially after she had slept a few hours; and for the first time, for nearly four weeks, she inquired affectionately, and with parental tenderness, after her infant. The application of the acid mixture was in a measure suspended now; and, as the symptoms seemed to abate or to assume a healthy aspect, it was gradually laid aside. It was remarked that a single application of the remedy after the constitution was impressed by it, was sufficient to operate upon the bowels decidedly; and, that by varying the quantity used at each time, corresponding effects were produced upon the bowels. Under this simple treatment the lady soon recovered; and, at the date of this communication, now nearly seven years since the case was treated, and with the exception of a slight attack of melancholy, she has enjoyed excellent health, and is the mother of three fine healthy children.

We will report one other case in detail, confirmatory of the great value of the acid mixture in overcoming constipation, dependent upon biliary irregularity, especially that form of it connected with torpor of the liver. This was a case of stricture of the urethra, which in its early stage, had been badly treated with caustic. The gentleman down to the period of using the caustic—as he informed us when our advice was requested in the case—was healthy. The stricture followed gonorrhœa. When the case came under our notice, we found the patient's general health greatly impaired; the strictures augmented by the cicatrices, resulting from the bad management of the caustic; the digestive organs greatly disordered, attended with the most obstinate constipation; some fever at night, and very considerable emaciation and general debility. This gentleman had from the first, experienced much difficulty in regulating the condition of his bowels; and in the efforts to relieve the constipation, a great variety of remedies had been employed ineffectually. In treating the case for constipation, it had had been observed by the patient himself, that when even a cathartic acted freely, the stricture, although permanent in its nature, was less troublesome.

Our first object was to correct the torpor, and general disorder of the digestive system, before an effort for the correction of the stricture was deemed advisable. Accordingly, we commenced with the usual remedies

in such cases, using occasional doses of mercurials, and a great variety of purgative means, alternating and combining them in almost every possible manner, without, however, affording our patient any more than the slightest temporary relief. At length becoming discouraged, in making further trials with the ordinary internal remedies, we determined to use the nitro-muriatic mixture, and, as in the preceding case, our confidence in the remedy was much strengthened by our experience with it in the early trials which we had made, already reported.

We commenced with it, both as an external application, and an internal remedy, diluted and employed as already intimated. In three days the constitution was decidedly impressed by it, the bowels especially, which now acted freely. After its continuance one or two days longer, the quantity to be used was diminished very gradually, to what was actually required to maintain the regularity of the bowels. We now incised the strictures, three in number, and one fully an inch in extent, and extremely firm, and the corresponding portion of the urethra a mere capillary tube, and had the satisfaction, after using a large gum catheter as a dilating means, for five weeks, to find our patient perfectly restored to health, and his wonted cheerfulness. The mixture in this case was continued occasionally for some time, both during the cure of the stricture, and after its complete removal. Indeed it was found so agreeable a remedy, and so effectual in regulating the appetite and bowels, that the gentleman has never ceased to employ it occasionally for such purposes, when judged necessary by him.

This patient, now six years since the remedy was first employed with him, has continued entirely healthy, and free from his two torments, constipation and stricture, down to the date of this communication.

Besides the cases here reported, we have in numerous others of similar character, employed the nitro-muriatic mixture, with effects equally as marked as a curative agent. In dyspepsia, hepaticula, and other forms of chronic derangement of the liver, uterine affections of a sub-inflammatory nature, some of the forms of external scrofula, and nearly every variety of pseudo-syphilis, we have used this remedy with the happiest effects. In chronic uterine affections, especially the different forms of imperfect menstruation, connected with disturbance of the digestive function, and distinguished by mental depression, constipation, and anorexia, we have found it exceedingly beneficial. We have also employed the mixture with great advantage in certain forms of hepatic torpor and constipation, following catarrhal fever, with constitutions decidedly bilious. In some of these cases the curative effects of the remedy have most signally displayed themselves. This affection we have found quite common; and until we had recourse to the acid mixture in its treatment, it was an intractable and troublesome form of hepatic derangement.

From the prompt and decided action of this remedy upon the biliary secernents, when endermically applied in all the cases in which we have

used it, it presents itself as a valuable remedy in the treatment of that scourge, Asiatic cholera; and should we ever have an opportunity of treating a case of that appalling disease, it shall constitute one of our chief remedies. In this disease it may be used both as a certain and prompt promoter of the biliary, and general secretory operations; and as a powerful revellent, and counter-irritant, in aiding the centrifugal tendencies to the skin, two of the most important therapeutic designs in treating cholera, It may also be beneficially employed in cases of irritability of the stomach demanding cathartics.

In the first case which has been detailed, we believe no other remedy would have arrested the course of the disease so promptly and effectually as the acid mixture: and from the numerous and satisfactory trials of other remedies unsuccessfully used, we are forced to the conclusion that no other agent possessed the therapeutic properties adapting a remedy to the cure of such a disease as this case must have been.

The case of puerperal mania furnishes evidence equally satisfactory, in support of the therapeutic powers of the acid mixture, when employed as an epidermic remedy, as no other agent was used at the time, nor had been employed for more than ten days before it was resorted to. In this case we are disposed to believe, if the acid mixture had not been employed externally, that the disease would have terminated fatally, as it was next to impossibility to introduce efficient remedies in any other mode, and the patient was daily and rapidly declining, when it was commenced with, and must very soon have succumbed under the afflictive disease.

In the last case, particularly detailed, it will be conceded that this valuable remedy was equally efficient in arresting the tendency of the bowels to troublesome constipation, and in imparting to the digestive system a condition more favourable for a healthful exercise of its functions.

We believe the acid mixture is especially adapted to the treatment of morbid states of the human body, based in chronic inflammation, or engorgements of the capillary and parenchymatous structures of an indolent nature, either as the primary pathological condition of these structures, or the consequence of inflammation. In this view it is assimilated in its remedial action to mercury, to which agent we believe it bears a very striking resemblance in many of its therapeutic powers, especially those from which a deobstruent operation may be supposed to result. In the cases which have been detailed, as well as the diseases referred to, in which the remedy has been found decidedly beneficial, one or the other of these conditions must have obtained in the organs chiefly affected, or the pathological state from which the functional disturbances followed, constituting the external morbid phenomena of the disease present; the almost entire absence of constitutional fever, and the ordinary concomitants of a state of active phlogosis, in the diseases treated by us, as well as the cases reported in this communication, in which the acid mixture was chiefly beneficial, render it strongly pre-

sumable, that such was the character of their pathological basis in the structure at the time the remedy was employed.

In diseases of decided inflammatory character, the acid mixture is entirely inapplicable; and, as far as our experience enables us to decide, becomes so by reason of its tendency to irritate the constitution through those qualities which directly exalt the action of the economy unduly, so as to superinduce a state of hypersthenia. We have never found any but injurious effects to follow its action in every form of acute disease in which we have employed the remedy, and for a number of years have confined its use exclusively to chronic affections with very slight febrile disturbance of the general system.

Whether employed internally or externally, the remedial effects of the acid mixture are the same. Occasionally it acts with undue violence on the liver and bowels producing hypercatharsis, or even a condition may follow closely verging on dysentery, as it sometimes elicits sanguineous dejections, attended with tenesmus of most painful character. But, generally, its action is moderate and equable, and the remote textures, especially those forming the capillary and parenchymatous structures, as they constitute the glandular and other secerning organs, are chiefly obnoxious to its operation. Upon the glandular system, as well as the extended secerning mucous and serous surfaces, it acts with peculiar effect as a promoter of secretion and absorption. It is very certain that this mixture increases the salival flow; but its action as a sialagogue differs from that of mercury in not producing tumefaction of the gums, but only slight tenderness of them, beyond which it can seldom be increased. The breath is never contaminated by it, unless the acid is permitted to act on the teeth; and to prevent this accident, it should always be imbibed through a tube of some indestructible material introduced fairly into the fauces.

From the experiments of Dr. Scott, and others, as well as from our individual experiments with the nitro-muriatic mixture, and a solution of chlorine in water, we are disposed to refer the action of the compound in every case to the presence of chlorine, and believe, with Dr. Scott, that a solution of this elementary substance in water will answer as well as the nitro-muriatic mixture as a remedial agent.

We have never employed the remedy as a bath by immersion, chiefly on account of the difficulty of using it in this form in a country practice. In applying it as an epidermic remedy and by sponging, the mixture should not be used of painful strength, and from twenty to thirty minutes time will be long enough to continue the sponging at each application of the remedy, taking care that the surface shall be constantly kept moist, and covered to prevent the too sudden evaporation of the mixture from it. Should the parts become irritated, so far as to render the reapplication of the mixture to them painful, other situations must be selected. Unless employed as a counter-irritant purposely, the remedy should never irritate the skin in a painful degree; nor will it enhance the curative operation of the mixture, when

employed as a constitutional remedy, to use it of a strength sufficient to vesicate or pimple decidedly. The regions of the liver and stomach, the spine, and the inside of the arms, thighs and legs, are the parts of the body to which we have generally applied the remedy. When to be used to the upper and lower extremities at the same time, we have imitated the custom of having it applied only to one extremity of the opposite sides; that is, to the right arm and the left leg; and, conversely, to the left arm and to the right leg, unless the case be urgent, such as the puerperal mania already reported.

In every case the pulse should be carefully attended to before this remedy is employed; and by no means should this important index of the state of the general system be disregarded during its continuance, or a condition essentially inflammatory may supervene upon its use, to contra-indicate a farther continuance of the mixture. We have never employed the remedy in question with children, and incline to believe that it will not suit their delicate and irritable constitution, especially as an epidermic application.

In conclusion, we would earnestly invite the attention of our medical brethren to this neglected but valuable remedial agent; and we really believe, if they would more generally employ it, there would be less necessity for the use of mercurial preparations, against which, in every condition of society, an abiding prejudice obtains.

Prince Edward Court House, Va., October 26, 1839.

ART. IV.—*Cases of Lupus, (Dartre Rongeante of Alibert.)* By J. W. SCHMIDT, Jun., M. D., one of the Physicians to the New York Infirmary for Diseases of the Skin.

LUPUS makes its attack and ravages on every part of the body, but most commonly on the face, destroying the nose, eyelids and lips in its progress. It is attended with a hypertrophied and engorged condition of the tissues, and has the effect of puckering the skin to a remarkable degree, when the scabs have dropped off, and left a cicatrix, so that as it advances, the nostrils are often stopped up and drawn aside, and the lower lid stretched down, resembling in a measure, the effects of a very bad burn, and presenting the poor sufferer a frightful and disgusting object. It is mostly regarded as occurring in strumous constitutions, and in persons of that habit, who have suffered from syphilis and have a taint left of that disease; but occasionally it is met with of purely scrofulous origin, of which I have a lady at the present time under my care. It is placed by Alibert, Rayer and Gibert among the *order* Tuberculæ, but Cazenave has placed it with Biett, separately as not belonging to any of the recognized orders. It commences with

sumable, that such was the character of their pathological basis in the structure at the time the remedy was employed.

In diseases of decided inflammatory character, the acid mixture is entirely inapplicable; and, as far as our experience enables us to decide, becomes so by reason of its tendency to irritate the constitution through those qualities which directly exalt the action of the economy unduly, so as to superinduce a state of hypersthenia. We have never found any but injurious effects to follow its action in every form of acute disease in which we have employed the remedy, and for a number of years have confined its use exclusively to chronic affections with very slight febrile disturbance of the general system.

Whether employed internally or externally, the remedial effects of the acid mixture are the same. Occasionally it acts with undue violence on the liver and bowels producing hypercatharsis, or even a condition may follow closely verging on dysentery, as it sometimes elicits sanguineous dejections, attended with tenesmus of most painful character. But, generally, its action is moderate and equable, and the remote textures, especially those forming the capillary and parenchymatous structures, as they constitute the glandular and other secerning organs, are chiefly obnoxious to its operation. Upon the glandular system, as well as the extended secerning mucous and serous surfaces, it acts with peculiar effect as a promoter of secretion and absorption. It is very certain that this mixture increases the salival flow; but its action as a sialagogue differs from that of mercury in not producing tumefaction of the gums, but only slight tenderness of them, beyond which it can seldom be increased. The breath is never contaminated by it, unless the acid is permitted to act on the teeth; and to prevent this accident, it should always be imbibed through a tube of some indestructible material introduced fairly into the fauces.

From the experiments of Dr. Scott, and others, as well as from our individual experiments with the nitro-muriatic mixture, and a solution of chlorine in water, we are disposed to refer the action of the compound in every case to the presence of chlorine, and believe, with Dr. Scott, that a solution of this elementary substance in water will answer as well as the nitro-muriatic mixture as a remedial agent.

We have never employed the remedy as a bath by immersion, chiefly on account of the difficulty of using it in this form in a country practice. In applying it as an epidermic remedy and by sponging, the mixture should not be used of painful strength, and from twenty to thirty minutes time will be long enough to continue the sponging at each application of the remedy, taking care that the surface shall be constantly kept moist, and covered to prevent the too sudden evaporation of the mixture from it. Should the parts become irritated, so far as to render the reapplication of the mixture to them painful, other situations must be selected. Unless employed as a counter-irritant purposely, the remedy should never irritate the skin in a painful degree; nor will it enhance the curative operation of the mixture, when

employed as a constitutional remedy, to use it of a strength sufficient to vesicate or pimple decidedly. The regions of the liver and stomach, the spine, and the inside of the arms, thighs and legs, are the parts of the body to which we have generally applied the remedy. When to be used to the upper and lower extremities at the same time, we have imitated the custom of having it applied only to one extremity of the opposite sides; that is, to the right arm and the left leg; and, conversely, to the left arm and to the right leg, unless the case be urgent, such as the puerperal mania already reported.

In every case the pulse should be carefully attended to before this remedy is employed; and by no means should this important index of the state of the general system be disregarded during its continuance, or a condition essentially inflammatory may supervene upon its use, to contra-indicate a farther continuance of the mixture. We have never employed the remedy in question with children, and incline to believe that it will not suit their delicate and irritable constitution, especially as an epidermic application.

In conclusion, we would earnestly invite the attention of our medical brethren to this neglected but valuable remedial agent; and we really believe, if they would more generally employ it, there would be less necessity for the use of mercurial preparations, against which, in every condition of society, an abiding prejudice obtains.

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spots of a bluish red colour, generally livid, indolent tubercles with a great tendency to destroy the surrounding parts and tissues, under the form of irritable, ichorous ulcers; these are covered with adherent brownish scales, which on falling off show that the disease has continued its destructive course. The ichorous discharge is one of its peculiar characteristics. In order to give a better view of the treatment adopted I here annex a few cases.

Case I. *Dartre Vénérienne.*—H. L., a gentleman of high standing, consulted me on the 5th of August, 1836, for this disease which had resisted the best medical aid in our country, as well as the principal quack nostrums of the day, not omitting Swaim's Panacea, of which, to use his own expression, he had taken a hogshead, as well as swallowed a cart load of pills; being possessed of means he had also visited all the springs noted for the cure of such affections, viz: the Virginia, Avon, &c. This gentleman was about 40 years of age, of a sanguineous temperament and of general robust health. He had contracted syphilis in early life, and was supposed to be cured. However, the disease I have described made its appearance some years after his marriage; when I saw him its ravages had been going on for 10 years; the eyebrows were destroyed as well as a portion of the upper lids, and deep ulcerations existed on the forehead, cheek and nose.

I commenced the treatment by giving deut. iod. hyd. gr. ¼ with extr. cicutæ gr. i., night and morning, at the same time the sores were touched every night on going to bed, with proto. iod. hyd. 1 part, honey 12 parts, which is an application much used in the French hospitals in such cases, as well as to indolent ulcers. I also employed, as a topical application, the tinct. of iodine which I have also seen used, all of which was of little use in this case. I was induced to stop the deut. iod. hyd. and substitute the prot. in the same doses, as I found that the first irritated the bowels to a very great degree, and even with the last, I found it necessary to give occasionally at bed time a pill of opium. The external applications also, not agreeing, I requested my father, Dr. Schmidt, of Charleston. S. C., who was then on a visit to this city, to see the case with me. He proposed the use of a very weak alcoholic solution of mur. hyd. made in the following manner: ℞. hyd. mur, ʒi. alcohol ℥i., one drop of which add to an ounce of rain water, The parts to be frequently washed with it, and allowed to dry on. The pills of proto. iod. hyd. were continued until the 15th of January, 1837, with the increase of one dose mid-day, when the mouth became sore for the first time, although he had before taken mercury in different forms and in largequantities. The disease was now much arrested, and I deemed it advisable to stop the prot. and substitute the following solution: ℞. hyd. pot. ʒij; aq. destil. ℥iv; a teaspoonful in a wine glass of water, three times a day, which was continued until the 1st. of September, at which time there was no appearance of the disease, nor has there been any return since.

Case II. John O. Shaughnessey, ætat. 34, a native of Ireland, (the most hideous object I ever beheld,) consulted me at the Infirmary, December 6th, 1836; has been in this country five weeks; contracted in Manchester, Eng., a chancre on the dorsum penis near the root, and had also a bubo which did not suppurate; was treated by mercury, and his mouth made very sore. As soon as his mouth was touched an eruption made its appearance over his whole body; his throat also became affected, all of which occurred five weeks after the disease was contracted, at which time he left his first physician and went to another, under whose care he was five months and recovered to all appearance, with the exception of a sore leg. Does not know what course was pursued by his last medical attendant. He next went to London, where the sore leg became very troublesome, which induced him to enter the Middlesex Hospital, under Mr. Mayo, who put him again on the use of mercury, but does not know what preparation. His mouth was again touched. He was not disfigured when he entered the Middlesex; was under Mr. Mayo's care for four years and a half, of which time he was an indoor patient eighteen months. After having been in the hospital twelve months, a French physician saw him and advised Mr. M. to try a solution of hyd. pot. and iodine, which he did. The patient became better under its use for a time and then got bad again. However, he continued it until April last, when he went to the Locke Hospital under Mr. Walker, who put him on the use of syr. sarsaparilla, for four weeks, during which time he improved much; the solution of hyd. pot. was next tried, under which he also continued to do well. The following is the form of the solution used: ℞. hyd. pot. ʒij; aq. destil. ℥viii; coch. mag. 4 in die. This man informed me that he could always check the disease with hyd. pot.; he was of irregular habits, and left the Infirmary in much the same condition in which he presented himself to me. This case is given to show the particular effect of the hyd. pot. which I consider a very important remedial agent, in the treatment of many cutaneous, as well as syphilitic diseases. It certainly possesses powerful alterative properties. I have no doubt but had this man's habits been good under the use of the proto. iod. hyd. and solution of hyd. pot. he would have been cured. Since seeing this last case, I have cured one very similar. I will also remark here that I have had under my care a number of cases of syphilitic sore throat of long standing which had been previously treated with mercury, without success, and they have invariably yielded to prot. iod. hyd. gr. ¼; extr. cicutæ. gr. i, night and morning, and increasing to three times daily. After using the above from 4 to 8 weeks, I follow it up with a solution of hyd. pot. I change, in the first place, the action of the parts by cauterizing the throat with the solid nit. argent. I have not found it necessary to carry the prot. so far as to touch the mouth, but if it accidentally occurs I stop the mercury, and go on with the hyd. pot. During the treatment, the patient should be freely purged once or twice a week, with infus. senna comp., and a light nutritious diet observed.

ART. V. *Cases of Hernia, with Remarks on the Use of Tobacco in that Lesion.* By SAMUEL JACKSON, M. D., of Philadelphia, late of Northumberland.

CASE I. In the year 1827, David Logan of Northumberland, who had long been afflicted with bubonocele on one side, for which he had constantly worn a truss by my directions, now suddenly produced one on the other side as he had produced the first, by straining at stool. It was very small and so painful to the touch as to preclude all thoughts of the taxis, without some relaxing preparation. He could not have been bled with propriety owing to his habitual intemperance and supposed propensity to delirium tremens; the tobacco injection was, therefore, immediately used and he was soon sunk thereby into a cold sweat attended with vomiting; but even now the taxis, though he bore it well, was unavailing.

After long continued efforts to reduce the tumour, he was directed to lie on his back, with his feet elevated on the wall, his hips raised by pillows, and to continue every moment of his time in this position till I might return.

Dr. J. B. Price of Sunbury was then sent for to assist, and in two hours from the time I had left him, we proceeded to the house prepared for the operation should it be necessary. He was still carefully lying as directed, though he had the pleasure of telling us with a joyful countenance that the bowel had receded. We now found no tumour, no tenderness on pressure, no sign of there having been a rupture. We gave him a number of purgative enemata and frequent doses of castor oil, in the course of that evening and night, but without any relief; the injections came away quickly without any accompaniment, and every thing was speedily thrown from his stomach.

The next day I explained to him the nature of his case and the necessity of an operation which might afford some chance of living; but as he was free from pain and as he thought from instant danger, he sued for time which was cheerfully granted under such difficult circumstances. He was desired to lie as much as possible with his feet and hips elevated as before, purgative enemata were frequently given and large tumblers were applied for a long time on the abdomen, as cupping glasses, with the vain hope of effecting something by the Russian method.

The third day the tobacco injection was again tried and persevered in almost *usque ad necem*, without success.

The fourth day, he was still free from fever and tenderness of the parts, was comfortable in the intervals of vomiting, and very desirous of trusting to nature. The operation he positively rejected unless I could conscientiously promise him relief and safety. To cut directly into the inguinal ring when there is no tumour to direct the operator, is a task not to be coveted unless by the most heroic and experienced surgeon; hence we gladly succumbed to our patient's determination.

It is not necessary to trace the history from day to day; suffice it to observe, that he went on puking at intervals until very soon the matter ejected was plainly stercoraceous, which he fully understood as well as the bystanders, and which he clearly expressed in his own language. He had no fever, no pain, no delirium tremens; he continued to look lively and natural to the 17th day, though he had several fits of vomiting every 24 hours.

He now told me, with hope in his countenance, that he had passed wind frequently the preceding night; then, for the first time, I encouraged him to to look for relief. He soon began to pass small portions of fæces, and to the best of my recollection, he was entirely relieved by the 25th day.

This man had no sign of fever from beginning to end, and though he had been for many years in the custom of taking largely of spirits, he escaped the delirium tremens—a fact that accords with our constant observations, that the propensity to this disease is immeasurably different in different persons, and not to be estimated by the quantity of their customary potations. He had two brothers, both habitual inebriates, who, though often deprived of their favourite beverage, never became deliri trementes.

It has been considered that a puking of the fæces, which has been called iliac passion, is universally a fatal symptom. I have never seen it in more than two cases, which were cured; one has just been related, the other was that of a woman whom we treated for inflammation of the bowels, about three weeks after delivery. She was recovered by almost excessive blistering around the abdomen and back, by frequent enemata of tobacco, and the warm bath almost continual. But these two cases may be considered as exceptions to the general rule.

Case II. In the winter of 1829, I was requested by Dr. Price of Sunbury, to consult with him in the case of Michael Hoffman, supposed to be labouring under strangulated hernia. The Dr. had tried the taxis freely, and we both tried it again, having prepared the system by the tobacco enemata. This having failed, we agreed to meet in the afternoon and to bring Dr. Rodrigue to assist at the operation, should it prove necessary.

We met at the appointed hour and agreed that the operation should be immediately performed. Upon making the usual incision, about six inches long, I was soon surprised with the appearance of a sac, smooth and tense, as though filled with water alone. Upon placing it between my eyes and the setting sun, which shone brilliantly upon us, I saw that the whole contents of the sac were uniform and semi-transparent. I said, *tacete, tacete—hydrocele est*, and immediately plunged the scalpel into the tumour and discharged the water by a large incision. I manipulated and conducted the affair in such a manner, that neither the bystanders nor the patient suspected any thing extraordinary. I drew the upper end of the wound together by two stitches and covered the whole with a poultice of bread and milk. He had an easy, rapid recovery and the hydrocele was radically cured.

The deception and erroneous diagnosis were not more extraordinary than the history of the case. The man had told Dr. Price precisely as he afterwards told us both, that the whole tumour had suddenly come on that morning upon his lifting a heavy log; and, further, that he had never known it before. Having heard its history from Dr. Price, I made no examination, taking it for hernia on the report of a skilful physician. The tumour was very large, and gave us the idea of a hernia containing much omentum.

Case III. In October, 1836, I was called by Dr. John Baskins of Selinsgrove, seven miles below Northumberland, to consult with himself and Dr. Reinhart in the case of Captain Coan, the postmaster of that town. The patient had long laboured under bubonocele of the left side and a propensity to it on the right side, where he had been operated on for strangulation twenty years before.

The previous day he had lifted a heavy stone and rested it on his abdomen, which instantly produced a bubonocele on each side attended with great pain. Dr. Baskins soon reduced both tumours, as he supposed, very fairly into the abdomen; but the patient insisted that they were still strangulated. Enemata and purgatives were tried but no passage was obtained.

When I arrived there was certainly no other evidence of strangulation than the patient's own feelings, with some tenderness on pressure, costiveness, and vomiting. If a stricture existed, it was, of course, at the internal ring or in the neck of the sac; but on which side or whether on both sides, could not be determined. The case was full of perplexity; and, as the patient had no sign of fever, it was determined to try the tobacco enemata and even other means, rather than incur the responsibility of cutting where probably no stricture existed, and where, moreover, there was no tumour to direct the operator.

Drs. Baskins and Reinhart attended to him till the next day, when my assistance was again requested. Dr. B. now cut into the inguinal sheath or canal of the right side, in the manner directed by Sir Astley Cooper, and each of us introduced a finger through the internal ring into the abdomen, by which we satisfied ourselves that no stricture existed. By this time the patient was heartily tired of our multiplied endeavours to relieve him, and he resolved to die rather than be opened on the other side.

No passage was obtained, he vomited frequently and died on the following day. I was prevented from attending the necrotomy, but his two physicians reported that there was no stricture at either ring; that a very small portion of intestine was found strangulated by Gimbernat's ligament, forming a femoral hernia, which was completely mortified.

Here there was an extraordinary instance of hernia wherein three strangulated ruptures were simultaneously produced, by one highly imprudent act, and by a man too who had long known the dangerous tendency of pressure on the abdomen. That the tumour from the femoral hernia must have been

almost imperceptible is certain, or we should have discovered it in our multiplied manipulations in that vicinity.

Here it may not be amiss to observe that I have never seen a femoral hernia.

On the Pre-eminence of Tobacco in Strangulated Hernia.—The use of tobacco in hernia, and of tobacco or tartar emetic in dislocations, I have long preferred to those copious effusions of blood formerly, and perhaps still, too much in use. To lose blood sufficient to induce fainting, and to preserve the system in this state till a bone or a hernia may be reduced, is an expenditure of the vital fluid, a waste of strength, which very many who are not prone to faint, will not regain for months or years. This is particularly the case in old people, but it also applies to the young who are already in a state of debility or of chronic disease, and to those who from idiosyncrasy are slow to recuperate.

Ice I have repeatedly tried, but never with the advantage of contracting the tumour; nay, it sometimes appeared to increase it both in size and tenderness.

The Russian method by cups demanded a trial; hence we have covered the abdomen with half pint exhausted tumblers, but they proved as useless in practice, as in theory they were unpromising.

The warm bath and warm fomentations may be tried, but they will hardly succeed in bad cases without the aid of simultaneous bloodletting. It is true that if the patient is greatly relaxed by the general warm bath and blood be let while he is yet in the water, a very small loss may suffice; but this may be in most situations a troublesome remedy occasioning too much delay. Time, said Franklin, is money; but in the treatment of hernia, time is not only money to the physician, but life to the patient, as well as honour to the profession of medicine. Tobacco will do all that bleeding can do, however great the inflammation, all that ice, or cups, or belladonna, or any other means can do, that have ever been invented.

We have never used cataplasms of tobacco to the tumour and stomach, but we intend to give them a trial the very first opportunity. We have very frequently used them with great advantage, for spasms of the bowels, particularly those of saturnine colic, and we do not see why they should not prove sufficiently powerful in hernia, at least, in those persons, who have not become hebetated by the continual use of this article. In persons who are very sensible to the impressions of tobacco, a cataplasm to the stomach will soon induce emesis and general relaxation.

Deglutition of tobacco smoke we have used with decided advantage. A few years ago, I was called to a patient in the night, who had been suddenly taken with strangulation of an old hernia: the taxis was gently tried but the tumour was too sensible to bear much manipulation. There was no syringe nor means of administering an enema, nor was there any fire in

the house, by which a tobacco cataplasm could be quickly made; hence it instantly came into mind that he might swallow tobacco smoke as a substitute. He was furnished with a cigar and desired to make vehement efforts to pass the smoke into his stomach. He soon became sick and puked, his whole frame relaxed, and covered with a cold sweat. The bowel was now very easily reduced and the free use of volatile spirits both internally and externally, soon restored him.

Whether this method of using tobacco has generally any advantage over the enema, I am not prepared to say. With women, and with those men too, who are delicate with respect to these obscene operations, it may be preferred, for delicacy ought always to be carefully regarded. I have very frequently used it since for spasms in the bowels, and for hernia; but it has several times entirely failed, owing, as I supposed, to the patient's inability to pass a sufficient quantity into the stomach. Those, moreover, who are unfortunately, or, let us say, viciously accustomed to the use of this poison, are not to be overcome by a small quantity. That smoke can be passed into the stomach by deglutition, I am very certain from my own personal experiments.

Strangulated hernia was of frequent occurrence in my busy and extensive practice, but of all the numerous cases that occurred to me during twenty-five years in Northumberland and its vicinity, every case was successfully reduced. I have performed the operation in three cases only, and these were in the practice of other physicians; one was successful and two were lost by previous sphacelation and a subsequent artificial anus. This success with the taxis, I impute entirely to the prompt and powerful aid of tobacco. If it be objected, that it is a dangerous remedy and that a few patients have been destroyed by it, we reply, that either the disease or the operation is far more to be dreaded than the use of tobacco in careful hands. The scientific physician will consider the strength and idiosyncrasies of his patient, and use the medicine with prudence. When I contrast this with the ignorant temerity with which the nurses and busybodies have often used this article to my knowledge, without measure and yet without detriment, I am fully persuaded that in the hands of skilful, scientific physicians, it ought not to be considered as a dangerous remedy.

ART. VI. *Case of Serious Injury of the Knee Joint, Terminating in the almost Perfect Recovery of the Use of the Limb.* By DARWIN E. STANTON, M. D.

THOMAS COFFEE, ætat. 18, on the 18th day of May last, whilst engaged in pointing rails with an axe, in consequence of the axe glancing from the

rail, received a severe cut on the outside of the right knee joint. The incision was horizontal inclining inwards and downward, from within a quarter of an inch of the patella, two inches posteriorly, and was of a somewhat conical shape; that is, the opening in the sac was not quite so large as the incision through the skin, in consequence of being made by the heel of the axe, which would necessarily give it the above mentioned shape.

The direction and force of the axe was such, that in passing inwards, it chipped off a portion of the external surface of the femoral condyle, together with a portion of its articulating surface. The edge of the instrument then sank through the external semilunar cartilage, into the head of the tibia, slightly splintering the head of that bone, a little anterior to the head of the fibula. The wound bled freely at first, but the hemorrhage soon ceased. The limb was lying in an extended position, but whilst I was engaged in dressing the wound, the patient, by some inadvertence, caused it to slip from its support and become suddenly flexed. At this moment, the joint admitted a large quantity of air, which entered with a loud gurgling sound. This I considered as imminently increasing the danger of the patient. I immediately placed the limb in an extended position, and by compression with my fingers forced a considerable portion of the air, together with some coagulum from the cavity, and by placing the wound in a depending position and passing my finger into the cavity of the joint, I succeeded in breaking up and removing large portions of coagulum which yet remained.

After this was effected and the cavity perfectly freed from all extraneous substances, such as bits of bone, &c., a flexible catheter attached to a syringe was inserted, by the suction power of which the remaining air was removed; the catheter was then very carefully abstracted and the wound firmly closed by adhesive straps.

The whole limb to the pelvis was then enveloped in a roller, the knee being padded beneath the roller with cotton batting that the pressure might be distributed around the joint evenly. The patient was then placed in bed and the wounded limb secured to an inclined plane, so that the foot was considerably elevated, in which position he rested comfortably.

19*th*. Comfortable with the exception of slight headache and a little soreness in wound. Upon removing the roller and examining the knee, no swelling had taken place. Diet 4 oz. boiled milk and two ounces bread, twice a day. To be purged with salts.

20*th*. Some headache; tongue white; some pain in the knee. Complained of tightness of the roller about the knee and of soreness of the wound. Upon removing the roller, the joint was observed to be considerably swollen, with tenderness at a point opposite to the wound over the internal condyle. ℞. scarified cups, no. ij, over internal condyle. The knee to be kept cool by the repeated application of cold water, and in the evening a large blister, so as to completely envelope the joint, over this the roller. Diet same. To be purged with salts.

21*st*. Blister had drawn well and discharged freely; swelling increased; knee quite painful; headache; tongue white. Diet, rice soup. To be purged freely with salts.

On the 25th the blister was again applied, and from this time the patient continued to do well. To the 3d day of June the patient remained in bed with the limb elevated. On this day he walked about the room, and from that time continued to perform gentle motions of the joint every day, until the nearly perfect use of it was restored to him. After the 25th of May, the only treatment was purging daily with salts, and the constant application of the roller, the joint as before mentioned being padded with cotton.

The wound did well, with the exception of a few prolific granulations, which were easily subdued with burnt alum.

The only difficulty he now experiences in the use of the limb, is when he ascends a staircase quickly, and when, as he expresses it, "he squats down on his hunkers." In ordinary walking and running, he has the perfect use of the limb.

The peculiarity of this case, is the happy termination of it after so serious an injury. When we consider that even the most trivial injuries of this joint are apt to terminate unpleasantly, and sometimes fatally, and how timid the most skilful surgeons are about the most trifling operations upon this joint, this case is rendered the more remarkable.

The fact that the knee joint should be laid completely open—a portion of the articulating surface removed—the semilunar cartilage divided and the whole synovial surface exposed to the action of the atmospheric air—the event being a restoration of the use of the limb, forms altogether one of those interesting and pleasant cases with which it is sometimes the lot of the surgeon to meet.

Holliday's Cove, Brooke Co. Va., December 6, 1839.

Note by the Editor.

[Our correspondent has very justly considered the preceding case as invested with much interest from the circumstance of the use of the limb having been restored after so severe an injury to a joint. The apprehensions which he entertained, however, of imminently increased danger to the patient from the entrance of air into the wound, though sustained by the opinions of most surgeons, we think wholly unfounded. It was taught by Monro, that air, is an active irritant to the synovial membranes; and this doctrine has since been pretty generally received, without, it appears to us, a sufficient examination, and in opposition to some well-determined facts. No positive experiments, so far as we know, can, it is true, be cited in contradiction; but clinical observations certainly afford no evidence in its support. Very severe symptoms undoubtedly, often arise from exposure of a joint to the air; but may not these with more propriety be referred to the circumstances which attend the injury, the nature of the wound, improper treat-

ment, &c., than to any irritating properties of the air? In favour of this view many examples might be adduced. Dr. Bond relates a case in which "the patella was cut across transversely by a blow of an axe, and divided into two nearly equal portions, so that the joint was laid open," and Dr. B. "had a direct view into it. The patient was a healthy boy, aged eight years, and the fragments of the bone united without any apparent affection of the synovial membrane." (*Philadelphia Journ. Med. & Phys. Sci.* Vol. II. p. 273.) Other instances in which joints have been freely opened without any bad symptoms accruing might be cited; whilst on the contrary the most violent effects have often resulted from injuries of joints in which the wound was too small to admit the passage of air. It thus appears that the possession, by this fluid of any property by which it is enabled to excite irritation in synovial membranes, remains as yet to be proved; though it is not to be denied, that a current of air may prove injurious to these membranes by its temperature, when this last is different from that of the tissue; or by absorbing the moisture of the parts, and thus placing them in an unnatural condition. But we have discussed the subject of the action of air on the different tissues so fully elsewhere, (see *American Cyclopedia of Practical Medicine and Surgery*, vol. I. p. 263—270,) that we need not enter into further details here.

ART. VII.—*Remarks on the Climate, Population, Diseases, &c., of Malta, with an account of the Asiatic Cholera as it occurred in that Island and Gozo, in the summer of* 1837. By PLINY EARLE, M. D., of Philadelphia.

THE island of Malta, the ancient Melita, situated between the southern extremity of Italy and the African coast, is in latitude 35° 50′ north, and in longitnde 14° 15′ east. Its length is twenty miles, its greatest breadth twelve miles, and its surface, on the supposition that it were a perfect ellipse, 188 square miles. Its soil lies upon a continuous bed of limestone, which is soft in texture, light in colour, and far from being durable as a material for building, soon crumbling when exposed to the elements. The southern coast, throughout nearly its whole extent, is inaccessible, the rocks rising, in nearly perpendicular cliffs, to a height, in some places, of 300 feet. The soil, though neither rich nor deep, is in a state of the highest cultivation, and, under the auspices of a mild climate, furnishes to the cultivator two crops in the year. The number of species of native plants, according to Dr. Zerafa, is 644; but it is thought that, were a perfect list made, it would amount to 700. Many of the species are papilionaceous; but few of them belong to the labiatæ.

The facts, that the latitude of the island is somewhat low, approximating the tropic, that it is surrounded by so extensive a body of water, that its situation is not very remote from the African coast, whereby it is subject to the hot winds blowing from the Lybian and the Saharian desert, would lead, *a priori*, to the conclusion that its climate must be mild. It is so. In January the mercury ranges from 50° to 55° Fahrenheit; in February the average is 60°; in the summer months its range is from 80° to 88°, and in October the average is 70°. The wind, when it sets from the north and northwest, is always fresh; but from the south it is almost invariably hot. Rain is rare in summer, but the heat is tempered by dews and the northerly winds. Among the peasantry it is customary to sleep in the open air, uncovered, during the night. This practice is indulged in without deleterious consequences. During the prevalence of a southerly wind, in summer, the atmosphere becomes hazy and dry. The aridity is so great, that furniture and book-covers are said to crack from its desiccating effects. The scirocco generally prevails, to the greatest extent, in September. Phthisical persons are said to suffer considerably during this period. Hence, it has been supposed that Malta is not a suitable place for those who are threatened with consumption, or who are already suffering from its invasion. From observation, during a personal residence in the island, in the months of January and February, 1839, I should have arrived at an opposite conclusion in reference to the winter months. I knew some individuals who had resorted thither for the benefit of their health and were very much improved. I would select it as a place of resort for tuberculous patients, during the winter, in preference to any of the cities of Italy.

"Strangers in general are affected, during the prevalence of the scirocco, with great lassitude and debility, which indispose the system and render it liable to suffer from dyspepsia. The natives, however, seldom complain of its bad effects on their constitutions, but more of the inconveniences which it brings to workmen and mechanics. Paint applied when this wind blows will never set well; glue loses much of its adhesive property, bright metals become tarnished, and, from the dampness of the atmosphere, the pavement of the streets is sometimes quite wet. Though this wind has occasionally held out for a week together, it seldom lasts more than three days successively."

The warmth of climate and the double crops, annually, enable this rocky island to support a vast population. The number of inhabitants is about 100,000, or nearly 600 to the square mile. Including Gozo, a very small island in the immediate vicinity, it is said that the population equals 638 to the square mile. This is eight times as great as that of England, and more than twenty times as great as that of Massachusetts, the most densely populated state in the American Union.

There appears to be no endemic disease in Malta. Ophthalmia is very prevalent, and is undoubtedly to be attributed, in a great measure, to

the reflection of the rays of a summer sun from the surfaces of the light-coloured rocks, so abundant in every part of the island. Even in winter, the light in the streets of Valetta is, at noonday, almost insupportable to one who is not accustomed to it.

I have seen, in the hospitals, cases of *tinea capitis* successfully treated with a mixture of carbon and sulphur, locally applied. There are also cases of intermittent fever, but they are, invariably, in persons who have recently arrived, and generally among those coming from the north of Africa. Otherwise the disease is unknown in the island.

There are four hospitals in Malta, one naval, one military, and two civil. One of the last is in Valetta, and the other in Citta Vecchia or Notabilé, near the centre of the island. There is a civil hospital, also, in Gozo. At Floriana, adjoining Valetta, there is an asylum for the insane, and the town last mentioned is furnished with a public dispensary. The civil hospital in Valetta is as well furnished and as neatly kept as most of the institutions of the kind in England and France.

A University was established in the island, by the Jesuits, in the year 1592. It has included a medical department, I believe, ever since its commencement. The Medical Faculty is composed of five Professors. The chairs are, 1st. Anatomy and Surgery; 2d, Physiology and Pathology, including Theory and Practice; 3d. Botany, Medical Jurisprudence, and Natural History; 4th, Obstetrics, and 5th, Chemistry and Materia Medica.

At the commencement of the year 1839, the organisation and discipline of the University were remodelled, and some changes were made in the Medical School. The medical students receive constant instruction in the hospitals.

A journal, called *L'apé Melitensé*, and devoted to the Medical Sciences, has recently been commenced at Valetta. It is a magazine of about 100 pages and is edited by Dr. Schinas. Only two numbers had been published previously to March, 1839. I am indebted to an article* in this journal, to an essay† upon the same subject, published, in a pamphlet form, by Dr. Chetcuti, and to data received from physicians, with whom I became acquainted in Malta, for the principal facts in the following account of the Asiatic Cholera as it prevailed in that island and in Gozo, during the summer of 1837.

The winter of 1836–7 was mild, in Malta, but was succeeded by a cold and humid spring. The Grippe, which had been prevalent, had not entirely disappeared, and cases of bronchitis were not unfrequent. A tendency to encephalic, pneumonic and gastro-enteric phlogosis, also

* Relazione del morbo Cholèra, regnato epidemicamente in Malta nell' anno 1837, ed osservazione teorico-pratiche sulla medesima malattia.

† Notizie storiche e patologico-cliniche sul Cholèra che divampò in Malta e Gozo, nell' esta' del 1837. Di Tommaso Chetcuti, M. D.

remained, exhibiting itself by dyspnœa, anorexia, diarrhœa, gastralgia, vomiting, cephalalgia and vertigo. This, however, diminished as the warm weather advanced, but, to a certain extent, continued during nearly the whole period of the prevalence of the cholera. About the 1st of June, there were two cases, the symptoms of which were those of the Cholera asphyxia. They were fatal, but did not excite the suspicions of the medical men in whose practice they occurred. On the 8th of the same month, the mercury standing at 74° Fahrenheit, and a hot wind blowing from the south, two cases occurred in the Ospizio degli Invalidi, at Floriana, which proved to be the real Cholera. The patients were both men, one 75 and the other 94 years of age. There were two additional cases in the same building on the 10th, one of them terminating fatally in fifteen, and the other in eighteen, hours.

The disease progressed until, at midday, on the 13th, twenty-seven of the inmates had been attacked and seventeen had already died. The number of persons in this establishment was 750. In order to place them beyond the influence of the local contagion, and to furnish them with more ample accommodations, in the event of the disease continuing its attacks, about 630 of them were removed to Fort Ricasoli. The epidemic extended among the 120 that remained, so that on the 26th there had been sixty-one cases, of which fifty-seven had terminated fatally. Meanwhile, those who had been removed to Fort Ricasoli, were not exempted from the disease. On the 13th two of them were attacked and both died in a few hours. On the 14th there were seven new cases, all of which proved fatal on the same day; and on the 15th there were thirty attacks, thirteen of which terminated fatally before night. It thus progressed until, on the 19th, there were sixty new cases in the fort alone. From that time it decreased, and became extinct on the 7th of July, after having carried off 385 patients out of the 476 who had been attacked. Hence, among the 750 inmates of the Ospizio degli Invalidi, there were 537 attacks, of which 442 were fatal, and ninety-five were cured. Of those who died, there were among the paupers 172 men and 177 women; the insane, thirty-one men and twenty-three women; prisoners, eight; boy, one. The remaining thirty were galley slaves, nurses, &c., &c.

Meanwhile, the epidemic pursued its devastating course in other places, cases having broken out sporadically, in several situations. As early as the 19th of June, there were many cases in the vicinity of Floriana. The total number, up to this time, ten days after the commencement of the disease, was 298, and that of deaths, 200. On the 20th the disease broke out in Valetta, Senglea, and three other places; and previously to the 27th it was in the towns of Cospicua and Vittoriosa, as well as in two other places. Before the 4th of July it had appeared in six other localities; between the 6th and 11th in ten more, including the island of Gozo, where it appeared on the 6th; from the 12th to the 18th in three more; and from the 19th to the 25th in one more. It had now visited all parts of the two islands.

Those who could change their places of residence had, by this time, fled from the great centres of population and taken refuge in the more retired and salubrious sections of the island. The epidemic continued through August and September, and was not completely exterminated until the 9th of October. Thus, it will be perceived that the disease prevailed about four months in Malta and three in Gozo. On the 4th, 5th, 6th and 7th of July, the number of new cases was successively 141, 168, 202 and

214. The greatest number attacked in the two islands, on any day, was 346. This was on the 14th of July. The maximum of the number of daily deaths was 137, on the 17th of the same month. The disappearance of the epidemic was simultaneous in the two islands.

The number of cases in Malta was 8022, of which 3869, equal to 48.22 per cent. terminated in death. In Gozo there were 812 attacks and 374 deaths, equal to 46.6 per cent.

In the practice of Dr. Chetcuti, the fatality was greater during the early part of the summer than it was subsequently.

There were nine cholera hospitals established in Malta, and one in Gozo. Patients were also received at the two civil hospitals at Valetta and Floriana, in the former island; and the soldiers of the line and the marines were treated, the former at the military and the latter at the naval hospital. The result of the treatment in these several hospitals is contained in the following table:

Epoch.	Hospital.	Cases.	Deaths.	Per cent.
During whole period,	Civil	94	62	66.
From 20th June to 2d August,	Cholera, Valetta	526	299	56.9
28th " 18th "	Senglea	305	205	67.2
8th July 10th "	Zeitung	149	97	65.1
8th " 29th "	Casal Lia	143	95	66.4
9th " 2d September	Notabilé	147	95	64.6*
10th " 1st "	Zebbug	181	109	60.2
18th " 18th August	Zurrico	87	50	57.5
20th " 10th "	Birchircara	58	26	44.8
20th " 11th "	Curmi	85	46	54.1
26th " 2d September	Floriana	84	50	59.5
During whole period,	Military	304	71	23.4
Do. do.	Naval	70	19	27.1

The small proportion of deaths in the military and the naval hospital, is attributed to the superior accommodations for the patients, and the greater attention which was devoted to them in those institutions. The mortality in the other hospitals was much increased, in that a large number of the patients were *in articulo mortis* when brought in, and died immediately. It is asserted that of those who had an opportunity of proper treatment, the proportion of deaths was smaller than in the cases occurring in private practice. Of 89 patients treated in the suburbs of Notabilé and in the Saura hospital, 30 were treated during the prodrome or existence of the premonitory symptoms. Three only of these died. Eighty-two were in the first stage, and 38, or 46 per cent., of these died. In the stage of collapse there were 48, of whom 30 died, equal to 63 per cent.

In seven of the hospitals above mentioned, the number of the patients of each sex was preserved distinct. The result was as follows:

* Of those in the hospital at Citta Notabilé, 100 were in the first stage and 78 in the second, or that of collapse, when they were brought in; four died before they could be put to bed, and thirty within two hours after the moment of their admission. Of those who were in the first stage about fifty per cent. died, and of those in the second stage more than ninety per cent.

	Total.	Men.	Per cent.	Women.	Per cent.
Cases,	1399	664	47.46	735	52.54
Deaths,	821	360	54.21	461	62.72

Dr. Chetcuti remarks that three-fourths of the patients in the hospitals of which he had the medical superintendence, and three-fifths of those in his private practice, were women. Hence, so far as data affecting the question are obtained, it appears that the number of women considerably predominated over that of men. The proportion of deaths was also greater among the women.

No age, sex, constitution or condition was exempt from the invasion of the disease, though the proportion of children absolutely affected was less than that of adults. "Small children had it very lightly, few of them being confined by it;" and "in the robust of either sex it assumed a type of greater severity." The proportion of deaths was greatest among people advanced in life.

The tenants of low and badly ventilated habitations were more subject than others to the epidemic influence, but persons who were predisposed to the disease, were not exempted from it by a residence in high and favorable situations. In some of the hospitals in the most salubrious localities, the mortality was as great as in any of the others. And, indeed, it was found that, in proportion to the population, the ravages were about equal in all parts of the two islands.

During the prevalence of the epidemic more than half the population were, to a greater or less extent, affected with its symptoms, such as borborigmi, abdominal pains, irregularity of evacuations and cramp of the inferior limbs. But, in a vast majority, these symptoms passed off or resolved by a crisis "induced by an irritated state of the nervous system," such as diarrhœa, sweats, vomiting and expulsion of fetid gas; or were removed by medical means, such as venesection and the use of diaphoretics or cathartics. The meteorological state of the atmosphere, particularly sudden changes and great electrical movements, had a great and controlling influence upon the number and the severity of attacks. Abstemious diet and regular habits generally prevented the invasion of the disease, or greatly mitigated its severity.

Many cases terminated fatally in from seven to ten hours. Some of the patients died during the stage of irritation, and others during that of re-action. The principal forms of the disease were diarrhœa and asphyxia. No disease other than diarrhœa prevailed during the reign of the epidemic, and that very easily passed into cholera. Sanguinolent evacuations, a cold tongue, and an extremely feeble pulse were the most fatal symptoms.

Among the patients in the cholera hospital of the Citta Notabilé and in its vicinity, there were eight women considerably advanced in pregnancy; six of them died and two recovered. The Cæsarian section was practised upon one of those who died, and the other five aborted during the course of the disease. Three of their infants were alive. The two women who recovered were delivered each of a still-born infant, at the full period of gestation.

None of the washerwomen of the cholera hospital of the Citta Notabilé were attacked with the disease. Some of the men nurses suffered from the premonitory symptoms, but were relieved by timely and appropriate

medication. Two of the female nurses died; they were predisposed to the disease by fear and irregularity of diet. It was observed at Malta, as at Paris, Naples, Warsaw and other places, that recently married people were, to a greater extent than others, subject to the epidemic influence.

The predisposing causes which were principally operative were, 1st, Errors in diet; 2d, Cool temperature, particularly if accompanied by humidity of atmosphere; and, 3d, The influence of the depressing passions, as grief, fear, &c. Most of the attacks occurred at an early hour in the morning, a fact which, perhaps, is partially to be accounted for by the action of cold and humid air. Grief for the loss of friends was, in many instances, considered to be the cause of the invasion of the malady. The fear of the disease was likewise a powerfully predisposing cause. Dr. Chetcuti remarks, that if any who gave way to such fears escaped an attack, it is attributable to the cessation of the epidemic.

The treatment generally pursued by the physicians during the prodrome or presence of the premonitory symptoms, was severe diet, sudorifics, and, in case of diarrhœa, cathartics of oil. According to the physician last mentioned, when the cholerific miasma entered by the lungs, it acted directly upon those organs and nearly always produced cerebral or cardiac symptoms. In this event, diaphoretic drinks and venesection, promptly resorted to, proved very effectual. Venesection was extensively and effectively practised by Dr. Chetcuti. The cold bath was attended with benefit in some cases, but was injurious in others.

After the actual invasion of the disease and during its first stage, or that of "irritation," the refrigerant and anti-irritant treatment was attended with the greatest success. The oxide of bismuth, calomel, and the sulphate and the acetate of morphia were employed for the purpose of stopping the vomiting and dejections. They were attended with but little success. Dr. Chetcuti used iced water and small pieces of ice, which were held in the mouth and swallowed as they melted. Much utility was found in the application of leeches to the præcordia or the anus, following the application by a dose of the tincture of opium or a portion of iced water, or, as an injection, a decoction of chamomile. In many cases brandy and iced water, both as drink and by way of injection, acted admirably, frequently stopping the diarrhœa. Vesicatories throughout the length of the spine were also useful.

During the second stage, or that of collapse, no remedies were administered internally, excepting iced water or small pieces of ice. Stimulating frictions and revulsives were applied externally. In those cases in which collapse was induced by the immediate operation of the specific miasma, rather than by a thickening and dissolution of the blood by evacuations, general bleeding, followed by sudorifics and the cold bath, was very beneficial. As soon as re-action took place, general and topical bleeding, mild sudorifics, saline purgatives and external revulsives were put in requisition.

Calomel was directed by some physicians during the stage of collapse. Dr. Chetcuti administered it in but two casses; in both of these typhomania was produced, which terminated fatally. Dr. Falzon, of the hospital of Zeitung, observes that, in the few cases in which he employed it in this stage, typhomania of the most severe form occurred. Dr. Chetcuti says, "Many typhomaniac patients were treated by me, and although I proportioned the antiphlogistic and revulsive means to the intensity of the specific phlogosis, I was unable to save but two cases in 28 or 30.

The following table, exhibiting a comparative view of the statistics of the cholera in Rome, Naples and Malta, is given by Dr. Schinas.

City.	Population.	Cases.	Ratio.	Deaths.	Per cent.
Rome,	150,000	9,372	1-16	5,419	57.8
Naples,	350,000	21,798	1-16	13,798	63.7
Malta and Gozo,	120,000	8,833	1-13	4,243	48.03

Such, then, is a brief account of the ravages in Malta and Gozo, of that giant disease which, during the last quarter of a century, has traversed, with a step of desolation, so large a portion of the habitable globe. After passing over a vast extent of territory upon the eastern continent, it leaped the broad Atlantic, bringing its breath of pestilence upon the shores of America. As if unsated by the extent of destruction here, it returned once more to Europe, and in Naples and Malta, as it had previously done in other places, nearly decimated the population. Although, at the present moment, it is apparently exterminate, the history of its course and characters is useful, not only as perpetuating a knowledge of one of the most remarkable epidemics with which the earth was ever visited, but also as an assistance to the physicians of future years, should it again appear and extend its ravages among mankind.

ART. IX. *Remarks on Tenotomy, with cases of Club-feet, and a case of Section of the Hamstring Tendons, for Contracted Knee-joint.* By Dr. BURLEIGH SMART, of Kennebunk, Maine.

AMONG the numerous improvements in modern operative surgery, there is probably none which presents stronger claims to the attention of the medical profession, and of the community in general, than the new method of removing those malformations termed club-feet, and of correcting the accidental deformities of a kindred character, occurring in different parts of the locomotive apparatus. Whether the almost uniform success of the method, or the numerous and painful distortions which it promises to remove, be taken into consideration, it seems justly entitled to a thorough examination and a faithful trial.

The history of this operation having been given in a previous number of this Journal,* need not be repeated here; it may be stated, however, that cases in which the operation has been performed in this country, have been reported by Drs. James H. Dickson,† Detmold,‡ N. R. Smith,§

* May, 1838, p. 116, et seq.
† Am. Journ. Med. Sc. Nov. 1838, p. 96.
‡ Ibid. May, 1838.
§ Ibid. Nov. 1838, p. 61.

Mutter,* Geddings,† Walter,‡ T. J. Garden,§ and Brown;‖ and doubtless it has been performed in other cases, not as yet made public.

The writer of these remarks, has, during the past summer and autumn, performed this operation, in four cases of club-feet, two of which were double and one single, making five operations. Two of the cases were congenital and one accidental.

The first case was that of a boy five years old, in whom the deformity was double and congenital; the first operation, which consisted in the section of both tendines Achillis, was performed in May last.

The deformity in this case was a combination of pes equinus, or Scoutetten's calcanian club-foot, and varus. The heel was so much drawn upwards, as not to permit its being brought to the floor in walking, by two and a half inches.

By a similar retraction of the tibialis anticus and posticus, and of the abductor pollicis pedis, the foot was so distorted as to cause him to walk on the outer portion of the dorsum of the foot, over the bases of the metatarsal bones of the lesser toes. This portion of the integuments, of the size of a half crown piece, had become so much thickened, that the surrounding portions were prevented from contact with the ground.

The retracted tendons were all divided, at three successive operations, at intervals of eight and ten days.

The tendo Achillis was severed, about an inch and a half above its insertion, by a sharp bistoury, inserted between the tendon and bone, its sides towards these parts. The cutting edge being then turned towards the tendon, this part was divided by a cutting motion.

The tibialis anticus tendon was cut, below the anterior annular ligament, and the tendon of the tibialis posticus was divided, just before its insertion into the scaphoid bone; and the tendon of the abductor of the great toe was separated near its insertion, in one foot only.

The extensor of Stromeyer was applied, immediately after the operation, and the heel brought down as much as it would admit, which was about one half: by tightening the extending strap daily, after the first three or four days, the heel was brought entirely down, in about a week. Had the whole operation been completed, at two different times, instead of three, which we think might have been safely done, one third part of the time would have been saved; but choosing rather to err on the safe side, if either, we preferred doing too little, to the opposite extreme.

After the extensor had been worn a sufficient time, to bring the feet nearly

* Lecture on Club-feet.

† Am. Med. Intelligencer, Aug. 1849, p. 145.

‡ American Journ. Med. Sc. Nov. 1838, p. 259.

§ Am. Journ. Med. Sc. May, 1839, p. 257.

‖ Boston Med. and Surg. Journ. Oct. 16, 1839.

into a normal position, or a sufficient degree of extension had been made to bring down the heel, and extend the foot to a little less than a right angle with the leg; a laced shoe, with leg irons attached to an iron sole, with a hinge joint at the ankle, and extending up to a little below the knee, was applied and worn; with cross-bars between the leg-irons, and between the toes, so as to keep the feet in parallelism at all times. This boy was able to commence walking with the extensors on, in one week after the last operation. The laced shoes described, coming high up around the ankle, were now applied and worn, day and night, until the feet became firmly fixed in a normal position. They were removed every day, and the feet and ankles bathed with diluted spirits, with friction, to prevent excoriation and tumefaction.

The patient can now walk, run, jump and dance, without shoes or boots, without any apparent inconvenience; with a slight inclination of one foot inwards, caused by that inclination of the corresponding knee joint.

A calf to the legs has been developed since he began to walk, although there was no appearance of any before the operation, the legs being destitute of any prominences from the knee to the heel.

The second case was a lady, ætat. 28, with congenital double club feet. The feet were turned in, at right angles with the normal position; and the soles so turned upward and backward, that the entire weight was brought to rest on the dorsal or upper surfaces of the feet, over the cuboid bones. The plantar aponeurosis was contracted or shortened, drawing around the metatarsal portion of the foot, so much as to produce a deep sulcus in the sole of the foot, opposite the junction of the tarsus and metatarsus. This so shortened the foot, that it was one inch longer after the removal of the distortion than before. In this case there was very little calcanean distortion, and consequently, the tendines Achillis were not divided; what slight retraction there was, yielding to the extension, made after separating the shortened tendons.

The tendons of the tibial muscles, and the flexor and abductor pollicis pedis, in one foot; and the plantar aponeurosis and the tibials in both were cut at three different times; and the common mechanical means subsequently applied. But so unyielding were some of the ligaments, that much difficulty was experienced, in bringing the feet into a normal position. The ligaments, apparently most implicated, were the inferior culcaneo-cuboid and the deltoid.

We have found the mechanical part of the treatment of this deformity, much the most difficult part; and in one case, the common means used to bring the foot into the desired position entirely failed.

The treatment of this case has been, however, ultimately successful; the patient now being able to walk on the soles of her feet, although the ankle joints are yet weak. They are gaining strength, however, and she is improving in the facility of walking.

The third and last case, was that species of the deformity, by Scoutetten, called phalangian club-foot—the toes and metatarsus being turned under the foot and backwards, so as to bring the dorsal surface of the foot, to occupy the position of the plantar surface, in a natural state; thus subjecting the patient to bear her weight on the top of the foot—this part, by its malposition, being, in function, converted into the bottom of the foot.

The subject was a female, ten years of age. The deformity was accidental—its commencement bore date as far back as the period when she commenced walking. It gradually increased to the state described. The distortion was produced by a retraction, or too short a state of the tendo Achillis and plantar aponeurosis.

By a division of these parts, the foot, in a week, was brought into a natural position; and, in a fortnight subsequent to the operation, she was able, with the aid of the shoe, used in the other cases, to begin to walk with assistance.

Case of Contracted Knee-Joint, by Contraction of the Muscles of the Hamstring Tendons—Section of these Tendons—Straightening of the Limb.—The subject of this case was a boy nine years old, with the marks of a scrofulous diathesis. The knee of the left leg began to enlarge, on each side of the ligament of the patella, six years ago, accompanied with a slight lameness in walking—no pain, tenderness or redness. At this time there was a perceptible tightness of the tendons in the ham, and a disposition to flexion of the limb when in a recumbent posture. This thickening, of the integuments of the joint, was followed by an apparent enlargement of the articular extremities of the bones of this joint. The enlargement, however, never became very great, sufficiently so, to render it distinctly perceptible at sight. About two years since, the boy was found to be affected with an angular anterior curvature of the spinal column, at the junction of the lumbar, with the sacral vertebræ; and the knee-joint more flexed, other appearances of the joint remaining the same. At this time the general health, always good before, appeared to be affected—some loss of flesh and strength, and restless nights. By the use of moxa and caustic issues, each side of the angular projection, kept open for about eight months; and the internal use of sarsaparilla, soda, and the hydriodate of potassa, the disease of the spine was apparently cured. But, now, there was a considerable degree of stoop, or inclination forward, given to that portion of the trunk above the pelvis. In this state Dr. Brown, of Boston, being consulted, advised the application of a mechanical apparatus, to be constantly worn, together with the use of an inclined plane; which seemed to afford important aid in rectifying the forward inclination of the trunk. But, as the straightening of the spinal column progressed, an increase of the flexion of the knee was observable. This straightening of the spine was evidently effected, principally, if not entirely,

at the expense of the unaffected portion of the spine above; for here was evidently formed a counter curve, to the diseased one; that still remaining not materially lessened, by which the trunk has been elevated to an erect position.

For the period of about five years, this lad, in walking, has been able to bring only the toes and ball of the foot to the ground; the heel not coming to the ground, in the ordinary step, by the distance of between two and three inches, the latter part of that period of time. The leg has been a little smaller than the other, below the knee, ever since the commencement of the distortion.

The section of the hamstring tendons, having been proposed last spring, as the most probable means of relieving the deformity, the father, after having taken other medical advice upon the safety and expediency of the operation, concluded to have it done. It should have been remarked, when speaking of the treatment of the first stage of the angular curvature, that it was followed by a gradual and entire restoration of the general health, which has remained without any interruption, good, during all the time since.

On the 15th November, the tendons of the biceps flexor cruris on the one side of the popliteal depression, and of the semitendinosus and semimembranosus on the other, were divided, about two inches above their insertion. There was not a teaspoonful of blood lost. The operation was performed with a slightly curved and sharp-pointed bistoury, which was introduced with the flat surface parallel and close to the inner side of the tendons, with the point upwards, and penetrating sufficiently deep to hook the point of the instrument under the tendon, by gently depressing the handle and turning the blade of the bistoury on its own axis, until it revolved a quarter of a circle, and the edge was presented transversely to the tendon. Then, by a gently sawing motion, depressing the handle, and at the same time elevating the point of the instrument, the parts were divided with but very trifling pain. We have noticed that this sawing motion is much less productive of pain, than where the parts are divided by their tension, over the edge of the instrument, by raising them on the edge of the knife like a lever.

The same precautions were observed here, as in the dividing the tendons in the cases of the club-feet, to make as small a puncture or external opening as practicable, and not cutting through the skin, at any other part, than at the point of the introduction of the instrument.

The punctures were accurately closed by court and adhesive plaster, and a compress and bandage were applied, with a crooked splint outside the bandage; the limb having been extended about two inches, measured at the heel, before the dressings were applied. The flexion of the leg previous to the operation was about 40 degrees.

The 8th day subsequent to the operation, no pain or troublesome inflammation having supervened, a carved wooden splint, with its cavity padded,

and having a hinge joint at the knee, by which the two parts were connected, was applied and confined with broad padded straps passing from one side of the splints to the other, fastening with buckles above and below the knee. On the posterior surface of the splints was fixed a screw, connecting the two splints; by the daily turns of which, the limb was gradually extended until it became very nearly straight, which was effected in a fortnight after the extending apparatus was applied, and three weeks after the operation.

This patient commenced walking as soon as the extending apparatus was applied. He is now able to walk with or without it, bearing his weight on the entire length of the foot; he can place the heel on the ground at every step, which he had not been able to do for about five years.

He is now directed to wear the apparatus by night and half of the day, and leave it off the remaining portion of the time; to use the limb freely, and frequently flex and extend it when the apparatus is unapplied; and to continue this course until a free, easy and entire use of the joint is regained.

December 10th, 1839.

ART. X. *A Case of Stricture of the Urethra cured by Bougies of Bark of the Slippery Elm Tree.* By WM. WATERS, M. D. of Fredericktown, Md.

Mr. ———, ætat. about 28, of strumous habit and ill health, informed me that he was threatened with retention of urine from stricture. According to his history of the case, he had laboured under blennorrhœa for *thirteen* years; for the last *three* years symptoms of stricture existed at times, and for the last twelve months his urine always flowed in a forked stream, or twisted like a cork-screw, evidently denoting permanent stricture. For the last year past he had been using the gum-elastic bougie for the twofold purpose of relieving the discharge as well as the stricture. On the 14th of August last I was consulted, when I found him labouring under considerable local inflammation, with purulent discharge, and great difficulty in urinating. By leeching along the course of the urethra and other antiphlogistic means, the active inflammation was reduced in a few days. I then examined the stricture with a bougie, and found it seated about four inches from the glans penis, and admitting only the smallest size gum elastic bougie. I immediately put him on the use of bougies prepared from the bark of slippery elm. They were made very smooth, and of gradual increase of size, shaped like the ordinary gum elastic. Before using they were held a few moments in tepid water, and were permitted to remain in the urethra generally half an hour, sometimes an hour or more, On one occasion, when introduced at bed time, he fell asleep with it in and rested well all night, suffering not

the least inconvenience whatever. With the use of these my patient was delighted; their soothing properties were brought into strong contrast with the pain from the wonted use of the gum elastic. In one week it was necessary to enlarge the bougies by glueing the smooth sides of the bark together. By their use for three weeks with comparatively no pain, the urethra was enlarged to the ordinary calibre. In urinating for the last three months the stream has flowed full and without impediment. In the mean time the discharge diminished as the stricture was dilated. It will be recollected that the gum elastic in this case had been used not only without improvement, but with with an aggravation of the stricture. The comparative merits of the elm bougie over other bougies in ordinary use I will leave to the future test and experience of the profession. But in certain cases of stricture where the more potent are not immediately wanted, I should prefer the emollient and expansive qualities of the elm over the wooden, gum elastic, whale bone, ivory, or metallic. For the introduction of the elm bougie to the notice of the profession, I am indebted to an interesting account of the Bark of the Slippery Elm Tree, (Ulmus Fulva,) for Bougies, Tents and Catheters, by William A. McDowell, M. D., of Fincastle, Virginia, published in the Western Journal of Med. and Phys. Sciences, Jan. 1838.

Fredericktown, December 10*th*, 1839.

MONOGRAPH.

ART. XI. *On Dyspepsia, or Indigestion.* By N. CHAPMAN, M.D., Professor of the Theory and Practice of Medicine in the University of Pennsylvania.

To the refinements of civilization we are mainly indebted for the prevalent and troublesome affection which has received this title. It seems scarcely to belong to the savage or barbarous condition, and comparatively seldom occurs among the lower or labouring people of active occupations and sober dispositions.

As we deviate, however, from nature in the cultivation of our sensibilities, moral or physical, or in our habits or pursuits, particularly in our modes of living, so are the exposures to it widened or multiplied.

No more, probably, than in the brute creation, should we have vitiated digestion, were it not for an artificial scheme of life. But in the present state of society, so pervading is it, that no age, sex, or rank, or condition, entirely escapes. Children occasionally have it,—the annuated are not exempt from it,—we see it as much in women as in men,—it is the affliction of the studious, and has become the annoyance of the sedentary trades man, artificer and manufacturer, though it scourges above all—the votary of fashion, the indolent voluptuary, and the grosser sensualist or debauchee.

Dyspepsia, strictly defined, means difficult, bad, or disordered digestion. But the function suffering variously, as well in degree as kind, the title applied to its derangements may not always adequately express their several modifications.

On this account writers have substituted other appellations, which, however, are equally vague and indefinite, such as the spleen, vapours, melancholy, hypochondriasis, biliary derangement, &c. Egregiously, indeed, have we erred in this instance, by a contemplation of an effect only, and that as an incident to the stomach exclusively.

Digestion is a series of operations of a very complex apparatus, any one portion of which being out of order, the function becomes in a greater or less degree deranged;—and it is this derangement of machinery, and not the vitiation of product, which is really the object of reparation. As well might the morbid discharges in any of the profluvia be held to be the essential disease, as here the imperfect concoction of food be so deemed. Equally in each case are these the result of an antecedent lesion of parts, and being simply consequences, must be kept up so long as such lesion may endure.

In adhering to the term dyspepsia I am therefore led, rather in compliance with usage, than from considering it as declaratory of any just pathological views, which are only attainable by a careful investigation of the state of those structures concerned in the performance of the assimilative offices.

It is obvious that to present a full exposition of the subject, it were required to treat of indigestion as it exists in, or is dependent on each and every part of the alimentary canal, and of the subsidiary or collatitious organs. Nearly as much of the process goes on in the upper and lower bowels as in the stomach itself, not to mention the indispensable contribution it receives from the liver, pancreas, the lacteals, or its final consummation in the lungs by the conversion of chyle into blood. Diverse, too, are the conditions of these several portions of the digestive apparatus when the function is disordered, each of which should be no less indicated to complete the exhibition.

The execution, however, of such an undertaking in detail as is imposed by so extensive a view, not now proposing, I shall apply myself chiefly to the more ordinary forms of the affection, as well in regard to their position as nature.

Commencing with those of the stomach, some attention will hereafter, when coming to the consideration of the diseases of other organs engaged in digestion, be appropriated to their share in influencing the dyspeptic condition.

Dyspepsia may be either acute or chronic. It is often suddenly induced by an offended stomach, and mostly passes away without attracting any regard, though in children especially, by permitting repetitions of attack, from continued indulgences, it sometimes becomes speedily rivetted and confirmed. The affection, however, of adult or more advanced life, such as this term is conventionally restricted to, is of gradual formation, creeping on for a season so slowly, in some instances, as scarcely to be recognised, or at least to excite any serious complaints.

Symptoms.—Both in the mode of its approach, and rapidity of development does it differ. But on an average, I think it is distinguished in the commencement by a sort of general *malaise*, or indefinite wretchedness, attended by a sense of oppression after eating, at the epigastrium, sour eructations, sometimes vomiting, loss of animation and inclination to exertion, mental or corporeal, with a feeble, accelerated circulation, lowness of temperature of the cutaneous surface, and which is somewhat pale and dry.

This state may last for a considerable period without any material detriment to health, though each meal shall reproduce the same sort of distress. The case being more evolved, there are gnawing sensations in the stomach, especially when it is empty, or a sense of sinking, with slight constriction of the throat,—the tongue soft, flabby, flat, and slightly covered by a whitish or brownish fur,—the bowels constipated, the breath foul, the secretions defective, and increased languor and listlessness of mind and body are alike manifested. Chilliness, greater palor, and reduction of the pulse, immediately after eating, take place, soon followed by headache or heaviness and somnolency, which when indulged, the sleep is disturbed, and so far from refreshing, the individual wakes up still more uncomfortable, or even very miserable. The appetite is not always the same, or the powers of digestion equally affected. Each is ordinarily much impaired—but the former is sometimes invigorated or craving, and the latter, though lingering, ultimately pretty well performed, judging from the aspect of the stools, which, with the exception of a want of bile, may be natural, and certainly without any mixture of unwrought alimentary substances. In other instances, however, the appetite is nearly gone or becomes ex-

ceedingly depraved, soliciting even the most outré or improper articles, as chalk, dirt, pickles or acescent unripe fruits, &c.

Continuing for any length of time, and occasionally from the very beginning, the disease implicates more conspicuously the mind, producing great fretfulness of temper, turbidness and confusion of ideas, or extreme dejection of spirits, amounting even to inveterate hypochondriasm. To such an extent, indeed, may the intellectual faculties be affected, that the usefulness of the person is utterly destroyed, complaining perpetually of inability to manage the most ordinary concerns. "He," says an old writer (Cheyne), "who would have a clear head, must have a sound stomach." The connection between these organs and their reciprocal influence on each other, are certainly very close, as is exemplified both in health and disease.

As dyspepsia advances farther, new or aggravated symptoms are disclosed, and now we have pyrosis, gastrodynia, cardialgia, flatulence, with putrescent, niderose belchings, or great distension of the epigastrium and extreme irritability of stomach, the aliments being puked or regurgitated or rather *sputated* as soon as swallowed, one or more of these affections existing, to which may be added obstinate constipation, the stools when procured being various, though usually of a firm consistence, of a clay or slate colour, indicative of the absence of bile, or are accasionally light, soft, and frothy, mixed with portions of undigested food, and the discharges attended with some nausea and griping. The skin, too, which from the first, is dry, now becomes more so, or is even husky,—changes its palor to a dingy or sallow hue, and the countenance has the expression of anxiety or haggardness.

These are among the more customary symptoms of an aggravated attack. But we occasionally meet with some abnormal affections, such as an uneasiness or an ache in the breast, side, the right side at first, though I have known it otherwise, or in the left, or of the head, and with no little perversion or disorder of vision. As regards the complaints of the eyes, these are sometimes very extraordinary. More than once I have seen the vision doubled—still oftener inverted—and in one instance temporary blindness. Not less common is vertigo, tinnitus aurium, headache, acute tenderness of the scalp, and palpitations of the heart. Now and then the nervous and muscular systems are prodigiously affected. Hysteria in females is common, and I have met with tetanoid convulsions so violent as to require the united strength of several persons to restrain the patient in a paroxysm.

Not arrested, the case is prone, in some instances, henceforward to assume a different aspect. Extreme atony of the stomach, with general debility and derangement of health, sometimes takes place, especially in those of delicate or depraved constitutions. But in other instances the vascular system, hitherto little disturbed, now becomes implicated, shown by a hard, quick, corded pulse, hectic flushes, dry parched skin, burning in the palms of the hands and soles of the feet, clean polished tongue, or, what is more common, the centre heavily loaded, with polished tip and edges, great thirst, or rather a demand for cold or acid drinks, a sense of fulness and distension in the epigastric and hypochondriac regions, with tenderness on pressure—heat of stomach and aphthous ulcers of the mouth, or a full crop of eruptions in the face. The urine, which in the previous state of nervous irritation, had been copious and pellucid, at this period under-

goes a change, depositing a lateritious or pink sediment, or is oily on the surface, as in some instances of diabetes, owing to defective digestion and assimilation of the food. The bowels, heretofore costive, now are apt to give way, and diarrhœa becomes the habit of the body. Extending to the lungs, this gastric irritation sometimes induces pulmonary disease, at first, catarrhal, gradually simulating tubercular consumption. Generally, however, there is a gradual wasting of strength and emaciation, particularly of the lower extremities, with sometimes numbness or immobility, so that locomotion can no longer be performed, the limbs dangling as if paralytic. The case now is essentially chronic gastritis, diversely complicated with nervous or other affections. Let it not, however, be supposed that such is the uniform tenor of the disease. The reverse perhaps oftener happens, or it pursues a course of infinitely less violence, occasionally varied by mitigations or exacerbations, and with these alternations endures for an indefinite period, till finally an entire recovery takes place, or it degenerates into a hopeless state of constitutional depravation. On this occurring, unequivocal as may have been its original aspect and character, dyspepsia sometimes becomes exceedingly obscure, or is entirely concealed by the absence of its peculiar signs, or disguised by the livery of some different disease. Cases of this description may proceed from an affection of some one or more of other organs, which, we are presently to see, from the extension of their irritations to the stomach, induce the dyspeptic condition, or by the latter spreading its influence to these same parts they become involved, so that in either mode a complication arises of extraneous and sometimes of predominant symptoms. Dyspepsia, in a word, is lost sight of in the prepotency of a foreign lesion.

Causes.—The causes of this affection are such as act directly on the stomach, or indirectly through the intervention of other portions of the system. Of the first, among the most operative, are indulgences in eating or drinking, so as preternaturally to stimulate or distend the stomach—or the use of certain unwholesome or imperfectly cooked articles, or an undue limitation of diet, as is practised to reduce obesity, or to subdue protracted diseases. The most opposite modes of living, the full and stimulating, or the penurious and abstemious in extremes, are alike productive of indigestion. Examples of the latter are not so common, though still familiar, more especially to be deduced from females in high life, desirous of acquiring, or retaining delicacy, or attenuation of frame. By an exceedingly low diet, too long maintained in the management of disease, I have frequently witnessed the same effect, or perhaps, actual gastritis, or with the irritation thus created, the tongue becoming florid, the epigastrium tender, &c. The ultraism in this respect, resulting, in no slight degree, from the dominion of a set of notions imported from abroad, I am convinced has proved a fruitful source of gastric derangements among us. Even more it has done, however, by vitiating the whole nutritive processes, thereby inducing a state of cachexy, affecting both the solids and fluids. From absolute starvation, analogous, though more prompt and exacerbated consequences arise, of which we have striking evidence in shipwrecked mariners deprived of food, and in the experiments of starving animals. Emptiness, in any way, proves what has been happily called the "Stimulus of inanition," as we see in the sudden withdrawal of the water in ascitis, and I may add, parturition, each being apt to be followed by fever. But in the case of inadequate supply, or total want of nutriment

and drink, there is, with the influence of emptiness, the irritation of hunger and thirst.

The most pernicious articles in excess, are acid, vinous, malt or spirituous drinks, especially in the shape of punch, or strong green tea, or coffee—exclusive vegetable matter, especially if it be crude or flatulent—or gross animal food, whether fresh or salted, or smoked—many of the condiments, and nearly all the things included in the term dessert.

Taking, habitually, drugs, conduces to the same end as the frequent repetition of emetics, or purgatives, or opiates and other narcotics. Tampering, however, with any medicine or medicines, so much the practice with some people of valetudinary dispositions, is very detrimental. Every ache or discomfort, real or imaginary, must be relieved by a recurrence to some supposed remedy, till finally, the powers of the stomach are worn out, and derangements, either functional or structural, take place. It would be salutary were such people constantly to bear in mind the epitaph of the Italian count, who fell a victim to this bad habit:

> "I was *well*,
> Wished to be better,
> Took physic, and *died*."

Nor can the profession escape the imputation of lending its contribution to this mischief. Called to a case of disease of such obscurity, that no distinct notion can be formed of it, we go on groping in the dark, pouring down drugs empirically or at least tentatively, till the stomach gives way, and its derangements are added to the pre-existing affection, by which a case is made of greater complexity, and of enhanced difficulty of cure. It is not easy always to avoid this course, from the ignorance or prejudices of mankind. The predominant estimate of the profession, even among the most enlightened people, leads to the delusive supposition that the materia medica has a remedy for every disease, and that the want of success under any given circumstances, is owing to the poverty of resource of the practitioner in attendance. Confidence is soon withdrawn should he intermit his exertions, which perceiving, he too often multiplies his administrations to avoid a dismissal, or to have imposed on him some one of the fraternity, who it is expected will bring forth fresh supplies. The consultation taking place, the new armoury of weapons is opened and applied, with only an exasperation of the case. Not satisfied, however, further trials of others are made—there is a repetition of a similar proceeding, and the catastrophe is completed. This, which might by some be suspected as a sketch of fancy, is a faithful and unexaggerated delineation of a reality, I have frequently seen and deplored. Convinced that he was falling a victim to this very practice, the Emperor Hadrian deliberately prepared as an inscription for his tomb:

> "It was the multitude of physicians that killed the Emperor."

The causes which I shall first mention as operating through the medium of the system on the stomach, are sluggish or sedentary habits, and intense study or application to business within doors, or any perturbating or depressing passion or emotion long indulged. It is an interesting fact, that while exercise is promotive of the health of the corporeal functions, the occupation of the mind, when intense, at least, has a contrary tendency, particularly as to those of the stomach, and hence the student, or the afflicted, or care worn, is nearly always dyspeptic.

Dress, too thin, or inappropriate to the season, has, also, a material influence. Cold to the exterior surface, and particularly to the feet, irritates the internal surfaces, and often that of the stomach. More, however, is to be ascribed to the modern fashion among females of tight-lacing, which, by mechanical pressure, affects the stomach. We learn from a late French writer, that corsets cause half the dyspepsia of Paris, and that, in several cases, the stomach was found on dissection permanently contracted in the centre, like an hour-glass, by the compression. Great mischief from this preposterous custom has come under my own observation. Not to mention other injuries from it, I can confidently state, that I am habitually consulted for dyspepsia and its associate affections, assignable to this fantastic usage.

The most common of the causes of the disease, in certain parts of our country, is the enormous consumption of tobacco in the several forms. Certain I am, at least, that a large proportion of the cases of it, which come to me, are thus produced. It is usually very obstinate, and sometimes of a truly melancholy character. Easy as it were to cite numerous instances to this purport, I must be content with a limitation.

By a member of congress from the West, in the meridian of life, and of a very stout frame, I was some time since consulted, who told me, that he laboured under the greatest physical and moral infirmity, which he was utterly unable to explain, and that, from having been one of the most healthy and fearless of men, he had become, to use his own phrase, "sick all over and as timid as a girl." He could not present even a petition to congress, much less say a word concerning it, though he had long been a practising lawyer, and served much in legislative bodies.

By any ordinary noise he was startled, or thrown into tremulousness, and was afraid to be alone at night. His appetite and digestion were gone—he had painful sensations at the pit of the stomach, and unrelenting constipated bowels.

During the narrative of his sufferings his aspect was ghastly, approaching the haggard wildness of mental distemperature. On inquiry, I found, that his consumption of tobacco was almost incredible, by chewing, snuffing and smoking. Being satisfied that all his misery arose from this poisonous weed, its use was discontinued, and in a few weeks he entirely recovered.

Distressing as was this case, I have seen others, from the same cause, even more deplorable. Two young men from the country were in succession brought to me for advice, whom I found in a state of insanity very much resembling delirium tremens. Each I was told had chewed and smoked tobacco to excess, though perfectly temperate as regarded drink, and which representation proved to be correct. The farther account given me was, that early in life, adopting this bad practice, it grew with their growth. Dyspepsia soon occurred, attended by great derangement of the nervous system, and ultimately the mania I have mentioned. But I have also seen the same condition very speedily induced.

Three years ago I was requested to visit a young man at one of the hotels in this city, who had been a resident in it for several weeks. The general aspect of the case so strikingly resembled delirium tremens, that I at once pronounced it to be that affection. But I was assured of his sobriety, and that he had been brought to his present situation by having kept his bed for several days, under the influence of nostalgia, during

which period he actually subsisted on tobacco. More recently, I saw quite a youth affected in precisely the same manner, owing, most unquestionably, to the exorbitant use of cigars. Both of these cases were cured chiefly by abstinence from this pernicious practice.

These are the prominent occasions of what may be termed idiopathic dyspepsia. As already intimated, it is, however, sometimes a symptomatic affection, emanating from a diseased state of other parts—the gums, bowels, the liver, the spleen, the pancreas, the kidneys, uterus, the brain, spinal marrow, &c.

The sympathy between the gums and stomach is illustrated more especially in the painful dentition of children, in which the latter organ often becomes seriously disordered. As an example of this connection, leading to dyspepsia, the case I shall relate may suffice. Many years ago I was consulted by a lady from Natchez for the disease, of long continuance, and of a very harassing nature. Discovering that her gums were highly irritated, from a very bad state of her teeth, I suspected them to be the cause of the suffering, and had all the carious ones extracted, by which, without any medicine, she in a short time recovered. But, in a few months, having an artificial set, which being badly adjusted, was productive of much irritation, the dyspepsia returned with equal violence, and again ceased on the removal of the teeth. These being subsequently well arranged, she has since worn them without any recurrence of the disease. Teeth, in another mode, may have a similar effect, as when in such a condition as no longer to perform mastication.

That the more ordinary disorders of all of the chylopoietic viscera, may be reflected on the stomach so as to produce this effect, and that even to functional constipation it is often owing, is well known. But occasionally I have seen it, and of the most inveterate character, dependent on intestinal strictures. In 1826 I attended, with the late Dr. Physick, a young friend of mine, in one of the most inveterate attacks of dyspepsia that I ever encountered. Baffled in our endeavours to cure him, he went to Europe, and consulted there, successively, the most eminent physicians, who took the same view of the case. Dying, finally, in Paris, he was opened by the celebrated Beclard, who informed me, that the only important lesion was a stricture of the colon, to such an extent, that a small quill could scarcely penetrate through it. From strictures of the rectum, which are far more common, I have frequently seen the most afflicting dyspeptic derangements induced, and what, perhaps, has been less suspected, occasionally, by hemorrhoidal derangements.

Two cases, from several more which I might adduce, may adequately illustrate this point. My attention was particularly called, some time since, to that of a middle aged gentleman, who had suffered several years so severely from dyspepsia, that even his life was deemed in jeopardy. The disease was exceedingly well marked. Learning that during the whole time, with scarcely an intermission, he had been annoyed by painful hemorrhoids, these were removed, and almost immediately he recovered his health.

Even a worse case, in a gentleman somewhat younger, subsequently came under my care. To great emaciation and hectic irritation, were added a condition of stomach which almost precluded the retention of nutriment of any description. More or less of whatever was received, soon returned by a sort of spasmodic regurgitation? Every evening he became

excessively oppressed, and was only relieved by vomiting of a very large quantity of a corrosive acid fluid;—which, on different occasions, being deposited on the grass of his garden, this was as completely killed, as if by salt and water poured on it. No course of treatment I could devise proved of any essential service to him, till having ascertained that he had long been afflicted with piles, a circumstance previously concealed from me, they were extirpated, and with the happiest effect.

Nephritic affections are very apt to bring the stomach into dyspeptic states;—and, perhaps, from no source does it suffer more in this respect, than by the uterine derangements. Every one of these, indeed, of any inveteracy, conduce to indigestion, though it is mostly found in connection with the irregularities of the menstrual discharge.

Chronic eruptions, especially of the face, repelled by cosmetics or other means, sometimes, moreover, occasion it, and also the repercussion, or metastasis, or misplacement of other diseases, one of the most prominent instances of which is afforded by gout. Destined to the articular structure as its proper seat, if this is prevented in any way, it never fails to harass the internal organs, and especially the digestive. Every practitioner of any experience must be familiar with examples of dyspepsia, even of the most fixed and obstinate character, immediately relieved by a regular attack of podagra. There is, indeed, much reason to suspect that no small portion of the cases of indigestion is really gout in its atonic or misplaced states, and I am sorry to say that the vast increase of derangements of this sort, which confessedly has taken place of late years, may be plausibly ascribed to the partial reformations of our habits of living. It will hereafter appear, that regular gout formerly prevailed to an enormous extent in this community, at a period when even its highest society was sullied by an inordinate consumption of wine. This constant stimulation drove it on the extremities;—but, since we have become more temperate, it is still generated, though so feebly as to linger among the digestive apparatus, precisely as it does in women of moderate propensities to drink. We have, in a word, exchanged podagra for dyspepsia, and to get clear of both in a greater degree, severer restrictions must be imposed on our potations—and perhaps, also, on luxurious feeding.

No two organs have more intimate relations than the brain and stomach, or so uniformly reciprocate their affections, and hence dyspepsia is a common product of cerebral disturbance, either physical or moral. An allusion to the effect of the latter has been previously made. As frequently, however, is it to be traced to lesions of the spinal marrow, and especially to those of the medulla oblongata, as might be presumed from the control of the nerves, emanating from this source, over the digestive operations.

Diagnosis.—In its more simple and elementary forms, gastric dyspepsia is readily recognised. But very different is it as to some of its anomalous modes and complications. The cases with which it is most apt to be confounded, are certain states of the duodenum, and of that part of the colon which passes nearest to the stomach. These portions of the intestinal tube are probably in the same condition as the stomach itself, or, in other words, that the part of the digestive process assigned to them is interrupted, and, of course, essentially similar phenomena are presented. By a careful observation, however, they may generally be discriminated. Not to anticipate what I shall hereafter have to say, when treating of these intestinal affections, I shall now only remark, that, in the duodenal, the

imitative symptoms of gastric dyspepsia, such as oppression, &c., come on much later after each meal, or not until the food has escaped out of the stomach;—and that in the case of the colon, the process of fæcation is badly performed.

Complicated, however, as dyspepsia usually becomes in its progress, it is extremely difficult to arrive at a just diagnosis in all cases. The object of our inquiries, under such circumstances, should be, to ascertain whether the case is a primary or secondary affection, as the treatment is modified accordingly. Being satisfied on this point, or that the stomach is the original and actual seat of the affection, we are next to endeavour, as equally important, to determine its precise condition, how far it is simply irritated or inflamed, functionally or more seriously disordered. The discriminating signs here need not be repeated. But there are some purely nervous states of the stomach which must not be mistaken for dyspepsia, and to these I shall now call attention.

My intention is first to speak of what is denominated an *irritable or sensitive stomach.* Generally, there is here no great uneasiness in the viscus till food is taken, when pretty violent pain is at once occasioned, and continued in some degree throughout the digestive process, which is lingering. The pain may be that of heat or scalding, or tensive gravative or oppressive, or constringing, in the latter instance, extending up the œsophagus, productive of stricture of the throat, and, at the same time, some pain is felt between the shoulders, particularly under the scapulæ. The appetite is variable, not often, however, materially impaired, there is no thirst, and though a tendency to constipation exists, the stools are not changed. Discharges of urine are more frequent, paler, and copious, than natural. The tongue is usually clean, and never heavily coated, the skin unaffected in temperature or other respects, and nothing is very striking in the external aspect. But what is very peculiar, with apparently such trivial suffering, a constant querulousness prevails;—the temper fractious and impatient;—the spirits alternately excited and depressed in quick succession, and the attention wholly engrossed in watching the fluctuations of the disease, from which it can be temporarily diverted only by the most amusing conversation, or business of the deepest interest. Characteristics so prominent as the foregoing, I think, may distinguish this from its kindred affections.

Gastralgia, the second of these affections, seems to be essentially the same as the preceding, modified mainly by a more chronic condition. Be this, however, as it may, it is of a strictly neuralgic nature, and among its prominent features are the following. The pain of the stomach is occasional or intermittent, sometimes of great severity, darting or spasmodic, and is relieved rather than aggravated by pressure, and the tongue is little or not at all changed, there is no thirst, or desire for cold or acid fluids, the appetite is sound, and the eating of solid food, instead of increasing the uneasiness, is usually palliative for the time, though some hours afterwards oppression is felt, and which may be followed by a cholicky affection. Long as it may endure, with few exceptions, no hectic irritation is experienced, and the strength, flesh, and complexion are preserved. Though the moral and intellectual condition suffers, it is peculiar to gastralgia that, on any temporary emission of the affection, a complete restoration, in these respects, takes place. These are circumstances in which it is opposed to both gastritis and dyspepsia.

It will be well in all our reflections on the subject, to advert to the fact, that there is scarcely a complaint in which the stomach does not participate;—and, whether sympathetically or idiopathically affected, from its immense influence, its derangements must be rectified, as a prerequisite to the restoration of health.

Prognosis.—The prognosis in dyspepsia is mainly to be derived from the character of the cause occasioning it, the stage of the case, the period of life, the habits of the patient, the general soundness of his constitution, his temper, and disposition to submit to a course of treatment, unavoidably one of privation, and commonly protracted.

No cause, perhaps, tends more to defeat our efforts in dyspepsia, and to enrol it among the reproaches of our art, than the multitude of remedies in vogue for the disease;—the perpetual recommendation of them by impertinent, or irresponsible advisers, and the easy credulity with which they are received, so that no uniform or permanent plan of cure is maintained. Not uncommonly, indeed, does it happen, that while the regular practitioner is pursuing a course cautiously adopted, and conducted in every step by the best lights of science, he is thwarted by the interposition of a countervailing nostrum, or entirely replaced by some presumptuous impostor, who commands confidence long enough to commit irremediable mischief. The season has scarcely passed away, since a practice originating in such a source, pervaded the United States, claiming as its only means, punching the stomach severely every day, and this ruffian method being indiscriminately applied to all conditions of the organ, inflammatory or otherwise, proved as disastrous as was predicted by those who, by their intelligence, were prepared to foresee the results. Can it be required of me to go on with other and similar disgusting recitals?

Few diseases, however, in itself, are more embarrassing than this to the practitioner of inexperience, especially owing to the number and diversity of analogous lesions of the stomach, or which requires greater discrimination in the management. The fact is, that our notions, generally, of dyspepsia are still vague and undefined. No derangement of the stomach, mediately or immediately, however trivial, can exist, without disturbing digestion;—and whenever it becomes at all permanent, is too often vaguely included under the denomination of dyspepsia.

Taken in the commencement, dyspepsia may nearly always be cured, provided we can command a strict adherence to our orders. But where we fail in this respect, which often happens, or the case is connected with organic lesions of the stomach or other parts, it will mostly prove otherwise, and all that can be done is to palliate what cannot entirely be relieved.

Anatomical Characters.—The appearances on dissection, in this disease, are not well understood. As regards the earliest stage, our information is particularly defective, since death never takes place from it alone, at this period—affording opportunities for an inspection. No marks of actual phlogosis would probably be found;—the case now being one of nervous irritation, with some degree of vascular excitement probably. In the second stage, in many instances, the evidence of inflammation is betrayed of the most conclusive character. Being very protracted and violent in its nature, the disease often, indeed, leaves behind it, as demonstrated by dissection, the phenomena of chronic gastritis, which will not be recapitulated. In drunkards it is not unusual, we have been told, to meet with the surface of the stomach smooth and polished;—the rugæ, or villi, having been re-

moved by the process of absorption, from the constant irritation applied to the mouths of the lymphatics, by the stimulus of strong liquors. This, which is the statement of the older writers, I presume to be the case of ramollescence, where the mucous tissue is softened and detached;—rendering the other coats more or less bare and exposed. Be this as it may, it is, in such instances, that we generally meet with scirrhosity of the pylorus or cardia, or erosions or ulcerations of the texture of the stomach, and various lesions of the intestines, particularly the duodenum or ilium, and with also, occasionally, of the spleen, pancreas, and other viscera.

Of the *pathology* of dyspepsia, I have in the first place to remark, that two circumstances among others of subordinate importance, seem indispensable to gastric digestion—that the solvent fluid of the stomach be pure, and of adequate quantity, and that, at the same time, the organ be so retentive of its muscular power as to bring its parietes to embrace the aliment, and afterwards to propel the chymous product in due season into the duodenum. Thus is the process mainly accomplished, and it being in either respect affected, unavoidably falls into derangement, constituting indigestion. But aberrations in the function may differ according to the part of the agency impaired. The solvent liquor being properly supplied, concoction goes on pretty well, though the product may linger behind, from a deficiency in the propelling power, and we have slow digestion, or conversely, the action continuing perfect, and the former wanting, the ingesta pass into the duodenum—sometimes, throughout the bowels, more or less unaltered, even as in lientery. But inasmuch as each part of the agency, the solvent liquor, and the muscular power, has a common source in the nerves, they are usually alike affected, and the operation in both respects is abnormally performed.

Confirmatory of the preceding views, an appeal may be made to the *modus operandi* of the causes of dyspepsia. Thus improper regimen, in the widest sense of the term, the abuse of medicines, especially the narcoctics, including that of tobacco, the mental emotions and perturbations, and depressions as well as the derivative irritations from remote parts, all seem to act primarily on the organic nerves of the viscus, affecting innervation.

Common experience, indeed, teaches that these causes directly annoy or disturb the stomach, vitiating appetite, and weakening the digestive energies. By habit the stomach may become reconciled to the influence of some of them, though it is oftener otherwise, and by continuance the effect, in the beginning slight, or transient, may be converted into the worst, and most enduring depravations.

The influence of the nerves going to the stomach, on which experiments show that digestion also materially depends, being interrupted, the process is farther disordered, and, at this stage, we have as the result acid eructations, flatulence, nausea, languor, and mental and corporeal inquietude, &c. The muscular power of the organ, equally proved to be controlled by the nerves, likewise suffers from a similar cause, and hence it is incapable of urging on the contents, and the sense of weight and oppression occurs. The stomach in fact is thrown into a state analogous to some of the forms of constipation of the bowels—and which state, indeed, may be shared by the whole alimentary canal.

But this explanation, so far, regards only the early period of the disease. As it advances, inflammation may occur, sub-acute or chronic—

and, through the sympathy which exists between the stomach and the rest of the chylopoietic viscera, the latter become involved in the same condition, to a greater or less extent.

It is at this period may be discovered tenderness of the epigastric, and next of the hypochondriac regions, the right especially—with the other evidences of more serious hepatic disorder, such as a suspension or vitiation, in various gradations, of the biliary, and perhaps, also, of the pancreatic secretion, attended by the febrile movement, and universal derangement of health.

Both the nervous and vascular functions being thus implicated, it is quite clear that this condition cannot remain long without inducing structural disorganization, and such is proved autopsically. It sometimes happens, however, that the stomach early acquires an exquisite degree of irritability or sensibility—which, instead of passing into inflammation, its more ordinary termination, becomes chronic, and in this mode gastralgia is constituted—or, by the want of innervation, it loses its muscular power and falls into extreme torpor and atony.

Contemplating this series of phenomena, it is impossible to resist the conclusion, to which I have several times adverted, that in dyspepsia there is always some modification of positive disease of the stomach and its connections, of which the irregularities and imperfections in the act of digestion are consequential and dependent.

Treatment.—This brings me to the treatment of the disease. Exceedingly various as I have shown it to be, all which can reasonably be expected from me, is to point out the course applicable to the largest number of cases, and its more customary shapes—and I begin with the idiopathic form of the disease, and that where the stomach is primarily concerned. By a review of the practice hitherto pursued, we shall see that, generally, it has been very empirical, or destitute of any fixed or enlightened principles. As in every other case, the only correct guide to its management is to be deduced from its pathology. Dyspepsia, according to my exhibition of it, consists of nervous irritation in its commencement, and hence plainly requires the means best calculated to calm or remove this condition.

For the most part, it is well to let the stomach alone, or forbearing the use of every sort of internal medicament, and particularly of any activity, to endeavour to abate and draw away the irritation to the exterior surface by a combination of depletory and revellent means,—the chief of which are local bleeding carried to an adequate extent, and then rubefacients, sinapisms, vesicatories, or the emetic tartar ointment or croton oil, so as to induce pustulation. As to the place of application of these means, we must be governed by the notion entertained of the source of the irritation. Conceiving it to be seated in the ganglionic nerves, it is preferable to make it to the epigastrium—or its appearing to be derived from the cerebral or spinal, in the vicinity of those nerves. By this simple plan, aided by the regimen hereafter to be pointed out, I have met with no difficulty in arresting the progress of the disease, and am persuaded, from ample experience, that it is the one which alone will be found to be productive of any uniformity of success. As corroboratory of the correctness of this view, in theory and practice, it may be remarked that whenever a metastasis of the irritation takes place to the surface, as an efflorescence or any other form of eruption, relief is ordinarily afforded. Nor to the other and rarer form of the disease, dependent principally on a want of

muscular contractility alone, from imperfect innervation, have I found this plan less applicable. It might, indeed, be affirmed to be more prompt and effectual under such circumstances. Cases without number have I known, with a permanently distended stomach, and the indescribable wretchedness of this state, which, after refusing to yield to every variety of internal remedy, were very speedily cured by the topical applications to the exterior just enumerated.

Nevertheless, it is the practice of many to meet the earliest indication in the management of the disease, by cleansing the stomach by vomiting, of all crudities, so as to free it from extraneous sources of irritation, and thus prepare the way for the reception and efficient operation of the subsequent remedies. An emetic, however, surely is not always demanded, and might prove even detrimental by an indiscriminate direction. The case, perhaps, to which it is only adapted, is such as proceeds from crapulency, or where there are acid sordes or other vitiated secretions, too abundant to be corrected by simple means;—and, even here, an appeal is not to be made to it, without a conviction that no phlogistic irritation prevails. Determining, however, to resort to it, by general consent, ipecacuanha is preferred as sufficiently powerful, and as, at the same time, exerting, as is thought, some more permanent impression on the disease.

Co-operating in the same design, clearing the primæ viæ, it is very common to follow up the emetic by an efficient purgative. Most of the preceding remarks apply with equal pertinency to this remedy. It is called for only by torpid or loaded bowels, unrelenting to the milder laxatives. No preliminary evacuations, however, are ordinarily exacted either way, the general purpose being so to regulate the alimentary canal, as to obviate constipation in any part of it. This last is an important consideration, and in the selection of the medicine some skill is to be exercised. Drastic articles are to be avoided, with the exception chiefly of rhubarb, if it may be so deemed, which has been much and advantageously prescribed.*

The alimentary canal being in a proper state, tonics may sometimes be resorted to with propriety. Before, however, entering on the use of such articles, we ought carefully to ascertain whether phlogistic irritation does not exist in the stomach. Trivial as it may be, they are inadmissible—and it is one of the greatest errors committed in the treatment of this disease, inadvertently to employ such means.

Too generally, is dyspepsia considered considered merely as a state of debilitated stomach, and managed accordingly—whereas, in the earliest stages, it is usually associated with much irritation, often followed by inflammation, though so slight, as not always readily to be recognised. Yet there are undoubtedly atonic conditions of the viscus, and it is to these that tonics are suited.

Diversified as is this description of articles, they have almost all been tried, and with various results. The vegetable bitters, especially the gentian, the columbo, the quassia, the hop, and the Peruvian bark have been

* The following formula is the best which I have ever tried: R. pulv. rhei. ℥ij.; pulv. ipecac. gr. x.; ol. carui. gtt. x.; Syrup commun. q. s. Ft. mass. et div. in pillulæ xl. Two or three of these pills may be taken at bedtime when required. They are so gentle in their operation, that they have been quaintly called the *Peristaltic Persuaders.* Combinations of rhubarb, aloes, ipecacuanha, and Castile soap, are however also very good, and, perhaps, not less so, the ensuing mixture, of which an ounce or more may be taken *pro re nata.* R. Pulv. rhei. ℥ij.; Pulv. gentian. ℥j.; Sodæ carbon. ℥ij.; Aq. font. ℔j.; M. Ft. Infus.

chiefly directed. The latter had, at one period, an indisputable reputation, though at present less than, perhaps, any one of the preceding medicines. It is prescribed in tincture, decoction, or infusion, the last answering best, with the addition of some aromatic, as orange-peel, to render it more grateful. My own experience, however, does not allow me to recommend the bark, except in one shape of the disease, presently to be noticed, much as has been said about it, and general as were the attestations to its efficacy. Nearly always it oppresses the stomach and is sometimes rejected. These objections, it is true, do not apply to the sulphate of quinine, which should be preferred, and may be useful. The hop and quassia I have given, and not without utility, the former of which, being peculiarly suited to the case of drunkards.

Nevertheless, in my opinion, the mineral tonics evince superior powers, and above all, the martial preparations, of which there are so many, that a considerable latitude of choice is allowed. The sub-carbonate or rust of iron is one much employed in powder or pill, with a small portion of ginger, or in the form of an aromatic chalybeate wine. The officinal wine, made of the tartarised iron, is too a neat and appropriate preparation, and not less so, is one prepared by digesting for three weeks, two ounces of iron wire, with the addition of orange-peel, in a quart of hard cider. The tincture of the hydriodate of iron has, also, of late, acquired considerable repute, and, I suspect, deservedly. Yet, on the whole, I am inclined to prefer the phosphate of iron to all the martial preparations, given in pills of two or three grains several times a day, alone, or in union with the sulphate of quinine.

Great, however, as may be the benefit which sometimes accrues from tonics, they are, for the most part, unnecessary, very often injurious, especially when long continued, and, probably, such cases may be safely, and, perhaps, more advantageously confided to a well ordered regimen, occasionally interposing some gentle aperient. It is to be inferred that tonics, after a trial of a few days, making no favourable impression, are inappropriate to the case—to be hence abandoned, and a recurrence again had to the external means formerly mentioned.

Complications.—The simple and least obdurate form of dyspepsia, is managed in the mode I have described. As the disease proceeds, however, it is marked by more vitiated secretions, and complicated by diverse affections. Cases of this description, particularly where the secretions are excessively abundant and depraved, occur, generally, in drunkards, or very delicate persons, with an atonic state of stomach. To correct these, becomes highly important, since, by re-acting on the case, they occasion altogether a more serious state of things. Yet, while thus addressing palliatives, we are not to lose sight of the main design of eradicating the disease itself, or to forget that they are exhibited in subordination, and as auxiliary to the general treatment.

1. *Cardialgia.*—Among the affections to which I allude, is a *painful cardialgia*, or heart-burn, owing to acidity. The quantity of acid sometimes secreted or otherwise generated by the stomach, is very considerable, and its effects exceedingly afflicting. Besides heart-burn and cramps, I have known it to produce excoriation of the pharynx, the fauces, the tongue, the mouth, the lips, and corrosion of the teeth. Effects of this kind, in various degrees, are not uncommon, and in the late Dr. Poval, of

this city, they were to such an extent, that, with a total decomposition of his teeth so that the whole of them crumbled away, he had colliquative diarrhœa, probably from ulceration of the alimentary tube, ultimately died. The nature of the acid varies in different cases, though according to late chemical investigations, it appears most generally to be either the muriatic or lactic acid, and between which, there is no material difference. Effectual though it may be, at the time, it will not always do to resort to an emetic to remove it. We have happily, however, several other remedies, consisting mainly of the antacid and absorbent preparations. Calcined magnesia, in small and repeated doses, is much employed. The fixed and volatile alkalies, also, answer well, and are administered in different modes, and in the carbonated or pure states.*

Perhaps, however, the ammonia should not be very freely given where the muriatic acid prevails, as a muriate of ammonia might be formed, which is irritating in any considerable quantity. The testaceous articles, as the prepared chalk and oyster shell, which sometimes are the best correctives, may be objectionable for the same reasons. As a substitute, the ensuing mixture will answer.†

Many years ago, a domestic remedy acquired considerable repute, and which it still maintains. It is *ley*, made by pouring a gallon of hot water on a quart of clean hickory ashes, and half a pint of soot, digested for twenty-four hours. The cure of the late Professor Physick by it, after every other means had failed, brought it into general use, and subsequent trials confirmed its efficacy. It is to be taken soon after each meal, in the dose of an ounce diluted—at any other time it operating disagreeably, and with much less effect. But it is a harsh remedy, managed as it may be, and from its great popularity, is greatly abused by a too general and indiscriminate application.

Might not the nitrate of silver largely given, be useful? It has a great affinity for muriatic acid, and an inert compound might probably be formed. It is very much in this way that the alkalies operate.

Both the mineral and vegetable acids, such are the idiosyncrasies of disease, will sometimes succeed in these cases when the alkalies have failed. The elixir vitriol I have frequently known to do so, and lemon juice, as well as vinegar, occasionally. It affords me pleasure to find that, in part, this statement is supported by the celebrated Sir Matthew Baillie, of which I was not aware till recently. "Where acidity has been particularly prevalent in the stomach," says he, "I have sometimes found it more effectually corrected by the diluted mineral acids, than by alkalies. Ten or twelve drops of the diluted sulphuric or nitric acid, mixed with an infusion of some bitter, and taken twice a day, will sometimes be very beneficial to this condition of the stomach."‡

* The following formula I have mostly employed:—R. Carbonas sodæ vel Carb. potass ʒj; Gum arab. ʒij; Sp. lavand. comp. ʒj; Tinct. theb. gtt. xx; Aq. font. ℥iv, M. More especially is the volatile alkali adapted to those instances where the stomach has lost its tone, as in drunkards or delicate women, and the ensuing prescription is a good one:—R. Aq. ammon. ʒj; Magnes. calcin. ʒij; Aq. cinnam. ℥ij; Aq. font. ℥vj, M.

† R Liquor potassæ pura ʒj; Magnes. calc. ʒij; Aq. cinnam. ℥ij; Aq. font. ℥vj, M. The dose of the preceding mixtures is about a tablespoonful, repeated *pro re nata.*

‡ Posthumous Writings.

Chewing blanched almonds, or a teaspoonful now and then of wheat bran, I have also found serviceable.

2. *Gastrodynia.*—The stomach may be thrown into painful cramps or spasms, denominated gastrodynia, often so violent as to call for immediate relief. Exactly of the same meaning is this term as gastralgia, each importing *stomach ache*, and are used by some of the late writers as equivalent. But they are applicable to very different conditions, which ought not to be confounded. The latter affection is a pure neuralgia, and characterized accordingly—while the former is more of a colic, occasioned by the acrimony of an immense accumulation of disordered secretions, which never exist in gastralgia. Not unfrequently it is met with in connection with cardialgia and pyrosis. The remedies in the paroxysm are opiates, ether or Hoffman's anodyne liquor, or musk, or the oil of valerian, or some other antispasmodic—of which, however, opium and its preparations are the best. Milk is sometimes very effectual, Two cases, especially have come under my notice, in which its utility was remarkably displayed, the spasms being more speedily and effectually relieved by a copious draft of milk, than by opiates or any other means.

Distending the stomach with tepid water is serviceable. Equally so is sipping small portions of boiling water—the one operating by relaxation, and the other by stimulation of the stomach. Not removed by the foregoing means, venesection may become necessary to relax the spasm, and afterwards topical bleeding, with a blister over the epigastrium.

To prevent a recurrence of an attack, the hiera picra, elixir proprietatis, Warner's cordial, the volatile tincture of guaiacum, and the sub-nitrate of bismuth, have been strongly advised in the interval of the paroxysms. The last is in great vogue, and I have reason to believe it merits confidence. An infusion of Peruvian bark has sometimes answered exceedingly well with me, to the use of which I was led by its known efficacy in the case of colicky or *belly-ache* infants, during the first months of existence. But the most certain remedy is the ley formerly mentioned—it scarcely ever having failed in my hands to eradicate the tendency to a renewal of an attack.

3. *Distressing flatulency*, from a copious disengagement of gas, fœtid or otherwise, very frequently exists, resulting either from fermentation of the ingesta, or a vitiated secretion of the vessels of the stomach—though when excessive, nearly always, the product of the latter source.

Carminatives may alleviate it, and to do away the disposition to its recurrence, I have seen much good from the elixir vitriol, repeated several times a day, alone, or with an infusion of bark. Where it follows speedily on eating, with a sense of load and oppression at the pit of the stomach, a pill of two grains of ipecacuanha, taken as soon as the meal is over, does sometimes obviate it.

The pill should be hard and dry, in which state it produces no nausea. Great relief is also derived, in some instances, from the annexed preparations,* though the one which follows is still better,† in the dose of half an ounce in a wineglass of hot water. But preferable to all these remedies

* R.—Pulv. rhei ʒjss., Sem. fœn. ʒj., Aq. bull. ℥iv. M.—et collat, adde—sacch. alb. ʒij. et mosch. q. s.

† R,—Rad. rhei contus. ℥iij., Sem. carui ℥ss., Sp. arden. ℔ij. To digest for ten days.

are the dinner pills, one of which to be taken half an hour after each meal.*

4. *Pyrosis.*—As much does pyrosis or waterbrash call for attention, and which is a very curious affection, commonly imputed to a preternatural state of the pancreas, or morbid secretion of the stomach. It may perhaps proceed from the first, though more usually from the latter cause. The vessels subservient to the elaboration of gastric liquor, become disordered, and, in consequence, pour out this vitiated fluid to a very large amount. It is the latter form of it, with which we have chiefly to do at present. Where the discharge is very copious, the treatment may be commenced with an emetic, and a recurrence had to it occasionally, when a re-accumulation of the fluid takes place to a distressing degree. Emetics operate probably as much by changing the perverted action of the vessels of the stomach, as by the evacuation of its contents. There are, however, some other remedies after the stomach is thus prepared for their reception. The whole of the antacids such as limewater and milk, the alkalies, the cretacious preparations, are of this description.

No small share of confidence is also placed in opium. Cullen recommends it who is so sparing of praise, that what he says of any medicine is entitled to great weight. Yet I have seen no more than palliation from it—and where spasm is connected with the affection, which often happens, it is always demanded. The kino, the acetate of lead, the oil of amber, the spirit of turpentine, and the subnitrate of bismuth are all important remedies, and may be successively tried, if necessary—the last of which, however, is usually the most efficient.

5. *Palpitations of the Heart.*—These on some occasions are extremely violent. They seem to be owing to a peculiar nervous sensibility of the stomach and heart, by which a slight impression from acid or any other irritant made on the one excites the irregular motions of the other organ.

Temporary relief is derived from the antacids, as formerly enumerated, and the antispasmodics, opium, ether, Hoffman's liquor, musk, natural or factitious, the oil of amber, the spirit of turpentine, and the essential oils.

6. *Affections of the Head.*—Cephalalgia spasmodica, or sick headache, one of the most heavy of the penalties entailed on the sedentary and studious, is primarily an affection of the stomach, owing to the irritation of morbid secretions. It recurs periodically, the pain is always frontal, and particularly over one or both eyes, and is preceded and accompanied by nausea, sour eructations, and other indications of imperfect digestion. The best remedies in the paroxsyms are emetics, magnesia, and the fixed and volatile alkalies. Not a little curious is it, that directly opposite means, as the vegetable acids, sometimes prove equally effectual. I have known a tablespoonful of vinegar at once to afford relief, and still oftener the same amount of lemon juice. Early in life I was tormented with the complaint, and the latter was my only remedy. Yet, where there is much vascular action, or great cerebral determination, we must resort to the loss of blood, generally or locally, and to a sinapism or blister to the nape of the neck. Drinking *hard cider*, every morning fasting, is a popular and very effec-

* R.—Gum mastic. Pulv. aloes, āā ʒi.; Ipecac. gr. x.; Ol. carui gr. x.; Mucil. gum arab. q. s. M. Ft. pill. xx.

tual preventive of this, and most other affections of the head proceeding from a dyspeptic state.*

Vertigo.—As regards vertigo, it seldom occurs except in the case of inebriates, and with them it is palliated by the carbonate of ammonia, or by assafœtida or garlick. Traced, however, to vascular fulness, bleeding and other evacuations will be proper.

Tenderness, &c. of the Scalp.—Externally, the head is liable to acute, and even excruciating pains, spasmodic or lancinating, attended sometimes by an exquisite tenderness of the scalp exceedingly enduring. Though this affection may not hitherto have arrested so much attention as to be accurately described, it has not altogether escaped notice. The plan of treatment pursued in this city, in some instances, after various other means had failed, was, to cut through the integuments, under a conviction that the case partakes of the nature of tic douloureux, and that, by dividing the affected nerve, a cure might be accomplished. What was the precise degree of success of the practice, I cannot say, though I suspect it afforded little encouragement, as I do not learn that it has lately been repeated.† Early adopting the notion that this affection, whatever might be its precise nature, arises from a dyspeptic condition of the stomach, the only cases of it which have come under my care, I managed chiefly by emetics, and had reason to be entirely pleased with the result. Even genuine neuralgia has been cured, in several instances, by this same practice, most probably when proceeding from gastric irritation.

5. *Diseases of the Eyes.*—By Richter, it is maintained that many of the diseases of the eyes, and particularly amaurosis, result occasionally from a disordered state of the chylopoietic viscera, and especially the stomach. Considering it primarily a gastric affection, he directs the exhibition of emetics, and afterwards a combination of tartarized antimony, with some other articles, to keep up a constant impression on the stomach. Doubtful as this hypothesis may seem on the first view, I am convinced of its correctness in many instances. The more we study the economy of the stomach, the more we shall be enlightened on general pathology, as well as to the diseases of the head. My practice has afforded me several cases of violent and intractable ophthalmia, that I could trace to a vitiated state of the stomach. Accumulations of bile in that viscus, have long been known distressingly to disorder the head, and affect the eyes, though the more painful and obstinate inflammations of these organs, have not hitherto, I believe, been ascribed to this cause. That it does occasionally produce them I am persuaded. Of this, at least, there is no doubt that they are speedily relieved by vomiting,

Hypochondria.—It is an ancient opinion, confirmed by subsequent experience, that hypochondriasm, sometimes exasperated even to furious mania, or depressed into the deepest melancholy, commences in depravations of the chylopoietic viscera, and above all—the stomach. But since, from its importance, it claims a more elaborate examination than I can now give it, I shall postpone the consideration of the subject to another

* By *hard cider* I mean a preparation of this liquor which we derive from New England. It is essentially different from *sour* cider, or any of the kinds in common use. These instead of relieving the affection have rather a contrary effect.

† The practice has been tried in England, and failed.—*Bendingfield's Medical Practice.*

place—and, for the same reason, that of hysteria, diabetes, calculus, and some other affections having their origin mainly in imperfect digestion.

In closing this part of the subject I have to remark that the preceding affections, and especially cardialgia, gastrodynia, pyrosis, palpitations, cephalalgia, tenderness and pain of the scalp, may originate in or be kept up by spinal irritation, or at all events, in many instances, that they are most effectually managed by local bleeding and counter irritation to the upper portion of the vertebral column—or they being, as also happens, more immediately confined to the ganglionic nerves, by the same means applied to the epigastrium. My wish, on the whole, is to inculcate the important fact, that though the series of medicines mentioned are very often of service on these occasions, they are, at most, only palliative, sometimes even aggravatory—and that, with the intention of a radical and complete cure, the other plan of treatment must sometimes claim a larger share of confidence.

Nevertheless, whether in its simplest form or thus complicated, dyspepsia may prove intractable to the means hitherto suggested. The disease, independent of any organic injury, seems to be so fixed and rivetted, as to require for its removal some more efficient process. Galvanism, with this view, has lately come forth with great force of authority in its favour, without, however, sufficient discrimination in the direction of it. Efficient at all, it is probably in those states of the disease only, proceeding from a great defect of enervation, it being held to be identical with the nervous influence, or the most efficient stimulus to it. But the trials I have witnessed of it, amounting to no inconsiderable number, were so little encouraging, that I have ceased to employ it.

Experience has taught me that, on the whole, in such instances, most will be accomplished by an alterative course of mercury, taking three or four grains of the blue pill every other night, and a gentle laxative the next morning—one of the very best of which, for the purpose, is a wineglassful of the mixture thus prepared.*

It may suffice to mention, that mercury seems primarily to operate here by changing the condition of the stomach, as well, perhaps, as that of the collatitious organs, on which their depravations depend. Further, let it be understood, that the secondary affections on which I have commented, are by no means uniform concomitants on the early stage of the disease, especially to such an extent as they have been represented by me, and that, as previously stated, seldom more than one or two of them are present in the same case, though I have seen the whole in succession, or variously combined.

* R. Infus. tarax. ℥iv; Extrac. tarax. ʒij; Supercarb. sodæ, ʒss; Tart. potass. ʒiij; Tinct. rhei, ʒiij, M.

(*To be continued.*)

REVIEWS.

ART. XII.—*Principles of the Theory and Practice of Medicine.* By MARSHALL HALL, M. D. F. R. S., L. and E., Lecturer on the Theory and Practice of Medicine, &c., &c. First American Edition, revised and much enlarged. By JACOB BIGELOW, M. D., Professor of Materia Medica in Harvard University; and OLIVER WENDELL HOLMES, M. D. Professor of Anatomy in Dartmouth College. Boston, 1839; pp. 724, 8vo.

THE improvements of science necessarily beget a demand for a renewal of the elementary treatises that teach it. Had our medical knowledge remained stationary, as it was in the time of Cullen, the "First Lines" of that distinguished man would hardly have been superseded to this day. Few men have since made a better use of all the knowledge of their time than he did. Few have observed disease more faithfully; few have more ably or with better judgment combined the observations of himself and others, into a connected system; and fewer still have taught a more skilful treatment of disease. Indeed, with all the additions to knowledge of later times, and with all the changes of theory, his work is even now but partially superseded. It is yet read, and must be read by every physician; to the advantage of the experienced reader, and to the no small embarrassment of the student in his earlier days of pupilage.

The student receives his first instructions chiefly from general treatises; and he receives them in the main implicitly, with little power of estimating the degree of confidence to be placed in them. If he is then taught erroneously, he is not only compelled to unlearn what has been impressed with the freshness of first lessons upon his mind, but he becomes confused by contradictory assertions and opinions before he can have learned to weigh them; and discouraged, if not disgusted, by the uncertainty of all that he learns.

At no former period have works of this sort so rapidly become obsolete as in our own times. We have seen, within a few years, not old theories abolished for new speculations to assume their places, as in former times, but the objects of inquiry in a great measure changed; not the discovery of new facts merely, but new modes of observation established, and new methods of attaining accuracy in our investigations. It matters little, in this point of view, if we allow that much of this is unreal and liable to be overthrown in its turn; or if we go farther and join in the cynical remark, that there is more of the love of change than real improvement in the innovations of the present day. It matters not, we say, for science must be learned by the pupil as it is taught by the master; and those who teach the first alphabet, must teach substantially the same language as he who comes after and fills up the course of instruction.

We have spoken of elementary books of medicine as the first book of the student. It is often much more than that; very many students, in this country at least, whatever it may be in others, scarcely get beyond it in

the whole course of their pupilage. And the reading of many practising physicians, we apprehend, extends little further than an occasional reference to some favourite system of practice. If we may judge from the very extensive sale of such works as Thomas's Practice, and Good's Study of Medicine, compared with the limited demand for the Researches of M. Louis, the excellent works of Dr. Abercrombie, and others of a similar character, we must infer that there exists in the profession a very moderate desire to explore the original sources of medical knowledge compared with the readiness to avail themselves of the labours of compilers. This may not be very creditable to the learning of the profession, as a class of scientific men; and yet we fear it is a just representation of it.

The student of medicine must, indeed, as we have intimated, in most cases, begin with his *hand-book*. He must have an outline of the course before him, a general survey of the whole field of inquiry, before he is prepared for an advantageous investigation of particular subjects. But his studies need not end here. The three years of preparatory study required, so far as we know, with only one exception, in all our states, short as is the time for acquiring so much as is needed to be known, is yet sufficient for more than this. With only a tolerable amount of diligence he may have read and *studied* some of the best original treatises in all the departments of medical science, so as not only to have made himself acquainted with their facts and reasonings, but to have become familiar with their habits of observation and inquiry; in short, *have learned how to learn*. For a few years after he has assumed the style and consequence of a physician, he will have leisure, unless he be more fortunate than most men, for a still more advantageous pursuit of the same inquiries. And, in later life, amidst all the fatigues and responsibilities of a successful practice, the physician may yet find time for occasional glances at the labours of others, so as at least to keep himself informed of the state and progress of knowledge; if he do not, also, as he ought, furnish his own quota to help on that progress. In each stage he will occasionally find it convenient and useful to consult a well digested epitome of medicine to refresh his memory, of what he has before learned, or as an index to further researches; but if he confine himself to such reading his knowledge will be most superficial.

The first attribute of a good treatise on the principles and practice of medicine generally, should be its *correctness*. It should give a faithful view of what is *known* on the several subjects; a clear exposition of established facts and opinions, in contra-distinction from imperfect observations and speculative theories. Fulness must be sacrificed to accuracy. Better that there be many a gap in the train of unexplained phenomena than a single explanation resting upon a false assumption. In this point of view all attempts, which in times past have been so common, to present a complete system of medical knowledge, are full of evil.

We have alluded to the injury suffered by the student who begins his course of studies with learning antiquated or otherwise incorrect opinions. On this subject much more might be said. We have a vivid recollection of the impression made upon our own mind in the infancy of its acquisitions in medical learning, when in the retirement of a country village we were set to pour over the mechanical explanations in physiology of Haller and Boerhaave. The beautiful system of hydrostatic pressure through the invisible nervous tubes, swelling out the equally invisible cavities of the muscular fibres, to produce muscular contraction; with all the wonders of

the *error loci* in pathology; and then the dismay at finding, on reading the next book, that all this had long since been swept away by subsequent discoveries, (shall we say?) or speculations. The student who had fallen on the doctrines of a later period, the mysteries of the *spasm of the extreme* vessels of Hoffman and Cullen, would now be scarcely less bewildered. We do not forget that the works of all these great men contain much that is of permanent value; that they ought to be read still by every student of medicine. But, as first books, how greatly do they mislead and discourage the pupil.

It is not easy to determine how far an elementary treatise should contain theoretical explanations of the phenomena it describes. Its first object, doubtless, is with medical facts. But facts alone, without any connection by legitimate inferences, would form a confused mass of knowledge of little use to the student, who has no experience to enable him to draw inferences for himself. The true rule is simple enough in itself;—that no explanation should be allowed, that is not a rational deduction from the facts established. In actual practice, however, this rule is not so easily applied. Legitimate inferences and visionary speculations, although so widely different in their general character, approach each other by such ill-defined limits, that men of different minds view them very differently. What to one man seems clearly established by irresistible evidence, is to another, of more rigid temperament, the merest hypothesis. Those writers who undertake to give a complete system of medicine, are especially liable to mistake hypothesis for true theory, conjecture for evidence, speculation for reasoning; and such have been many of our most noted writers on the principles of medicine. A like danger besets him who either is or thinks himself the author of any considerable discovery in medical knowledge. His mind must be well balanced indeed, if he do not see in his own discoveries a much greater importance than will be attached to them by others, even if he do not over-estimate the evidence upon which the supposed discoveries themselves rest.

In these points of view, the work now before us has been prepared under peculiarly favourable circumstances. Whatever of bias the original author may have been exposed to, in consequence of his claim to new discoveries, is fully counterbalanced by the practical good sense and judgment of the able editors, who are liable to no such unfavorable tendencies. Both of them are well known for their zeal and success in the cultivation of sound learning, and one as an able practitioner and teacher of medicine of many years standing. Being engaged in the business of instruction, their experience of the wants of pupils has induced them to undertake this work. It may fairly be presumed that the same experience will have operated constantly as a caution against admitting into it anything that is either unsound in doctrine or incorrect in practice—anything that must be unlearned before the pupil can make farther progress in knowledge.

Dr. Marshall Hall's *Principles of the Theory and Practice of Medicine* was designed primarily to accompany, as a sort of text-book, the author's lectures on the same subject; indeed, it has much the appearance of having formed originally a part of the lectures themselves. There is often a vivacity in the style, and occasionally an allusion to himself and his own personal matters, to which a man might be much more easily incited in the preparation for a viva voce address to listening sympathising pupils, than by thinking of the deliberate and perhaps criticising reading of the study. There are some great advantages in this; it gives life and animation, it

keeps up the attention and makes a vivid impression. There are also disadvantages. Notwithstanding the author's repeatedly expressed determination "not to write an unnecessary sentence, or even an unnecessary word," his fertility of language often runs into an exuberance of words, and his zealous advocacy of his claims to original opinions or observation, sometimes outstrips the necessities of students. On the other hand, the design of filling up a more full explanation in his lectures, has led him to omit much that requires a more ample elucidation in a treatise designed for general use. Some of the more important of these redundancies the American editors have omitted; and the additions which they have made are so numerous and extensive, as to constitute about one third part of the large volume now presented to us.

It adds somewhat to the vividness of the impression, though not always to the feeling of security that the impression is a correct one, that the author evidently writes in a strong confidence that he is saying the right thing, and in the right manner. For example, in speaking of melanosis he says, "I will devote to it precisely that degree of attention which it appears to deserve, comparatively with the other subjects of this volume." And again, of eruptive fevers: "I expect much will really be effected in simplifying the subject by the mode which I have adopted, of placing these arrangements before the student. The eye—the mind will speedily become familiarized with the multitude of events which occur, and then the principal difficulty will be overcome." [English edition.] Indications of the same self-complacency are not wanting in other parts of the work.

The style, besides being, as we have already intimated, diffuse, is often negligent. The author occasionally indulges in the coining of a new word, or in a new application, which is equivalent to it. Sometimes this seems to be done for no other reason than to spare himself the trouble of seeking a better expression; for example, "the *splenic* pain, tenderness and tumor." In other instances they are more expressive, and by using them considerable circumlocution is avoided. Possibly we ought to tolerate such words as *detectible* and *indetectible* for this reason, although the sound of them is by no means agreeable to our ears. Technical phrases are carefully defined by an explanation of their etymology.

The style of the editors is free from the declamatory character of the author's, and is altogether in better taste, although their familiarity with French medical literature has occasionally betrayed them into a foreign idiom. If, in consequence, it wants something of the spirit of the original, it loses nothing in perspicuity, and gains much in simplicity and comprehensiveness, and in *sincerity*. We feel none of the misgivings, which in the other case it is not easy wholly to repress, lest strict, severe accuracy should sometimes be sacrificed, or qualified, for the sake of rhetorical effect.

These, however, are minor points; in the main, the descriptions are clear and graphic. The interest of them is considerably enhanced by the frequent introduction of individual cases of disease, by way of illustration. This advantage is attended by some sacrifice of the brevity so studiously aimed at, and sometimes the illustration draws off the attention too far from the main subject. In the thorough investigation of a disease, individual cases cannot be too carefully studied; but in a mere outline, a too frequent introduction of them may be injurious. If the history is related with great brevity, it is liable to mislead; if more fully, it occupies so much space,

in a work where conciseness of description generally prevails, as to give the appearance of an undue importance to the diseases thus illustrated.

It is not indeed easy, perhaps not possible, for any author to attach to each disease, in his descriptions, precisely the relative degree of importance which truly belongs to them. Diseases which he has himself elucidated by original observations or separate treatises, will unavoidably *loom up* in his mind to a consequence which they do not possess in the view of others. Some traces of this appear in the work before us, even through all the *graduating* processes of the editors.

The descriptions in this volume are essentially aided by a great number of wood cuts, representing sometimes healthy, and oftener morbid appearances. This, so far as we know, is a new application of this cheap method of illustration. The illustrations are not very beautiful, nor remarkably well executed, either in the original or the American edition. They do not, and are not designed to (nor indeed can any engravings, however well executed) serve as a substitute for an actual examination of the parts themselves, both healthy and morbid. But they will give the student some idea of their appearance, before he has had opportunity to make such examinations; and what is of much more worth, they will help to recall the exact appearances to his memory in subsequent reflection.

The work is divided into two parts: *The Theory of Medicine* and *the Practice of Medicine.* Under the first head are discussed in so many chapters, *Medical Observations; The Signs or Symptoms of Disease; The Causes of Disease; Treatment of Disease; Inflammation; Tubercle; Scrofula; Melanosis; Encephalosis; Scirrhus; Fever; Irritation; Exhaustion; Sinking; Bloodletting; Mercury;* and *Tartrate of Antimony.* The first four chapters and that on Scrofula, are original in this edition. We see no very obvious reasons for just this division of the subject—why many of these subjects should be regarded as belonging to the *theory* of medicine, any more than many others which are assigned to the division of *practice.* The author remarks that a full view of this subject would involve the consideration of the anatomy, physiology and morbid anatomy of organs. The first and second of these he supposes to be learned elsewhere, and the last is associated with the account of individual diseases. Some of the subjects in the preceding list might with equal propriety, one would think, be assigned to other places. Mercury and antimony belong rather to the materia medica, except so far as their action is the cause of specific diseases; and then their place would seem to be in the second part rather than the first. The same might be said of melanosis and encephalosis, and perhaps of some of the other diseases enumerated in the first part. On the other hand, the influence of the nervous system upon disease in general is so great, that we should have thought its claims to notice in connection with the theory of medicine, at least as strong as those of tubercle or blood-letting, if not equal to those of inflammation or fever. We do not regard this as a very great fault. But if there is any justness in these remarks, they show that the author has at least been guilty of carelessness in the arrangement of his subjects, although he makes a considerable display of attention to order and method in regard to it.

Several of the subjects of this part certainly require to be discussed before the pupil can be prepared to enter upon the study of individual diseases. The first chapter is on *Medical Observation.* The difficulty

of acquiring a full knowledge of diseases is well described in the opening sections.

"1. The observation of phenomena occurring in the living body, whether in health or in disease, is attended with peculiar difficulties. These phenomena are the results of the mutual action of external influences and of living organs upon each other. The influences are extremely numerous, they are constantly changing, and many of them imperfectly appreciable. The living system on which the act itself presents an assemblage of powers and susceptibilities, the extent and balance of which vary at every moment of life. A perfect history of any given case would require a complete exposition of all these external influences and all these internal changes. Still further, as the internal conditions of existence peculiar to an individual, or what is called the *constitution*, are, to a great extent, transmitted from his progenitors, a complete observation would require the knowledge of a thousand circumstances relating to those who have perished before the subject of our study existed."

"2. A perfect medical history is therefore an impossibility. It is in vain that the student turns to the most exhausting and insatiable of modern observers in the hope of discovering such a model; he may find valuable approximations, but never perfection. Were the patient placed in the balance of Sanctorius, were he surrounded with the instruments for measuring the density, the temperature, the moisture and the electrical state of the atmosphere; were every beat of his pulse registered; were he percussed by Piorry and ausculted by Laennec; were his intelligence ever so acute, and his questions ever so sagacious, still the account of his disease would be incomplete. And were he to die in spite of all this united wisdom, and were the scalpels and microscopes of all the Louis, the Kiernans and the Ehrenbergs in the world to unite in the investigation of his organs, the autospy would be imperfect."

"3. Since, then, the most complete observation of a case is only an approximation to its real history; and, since, of the apparent facts which we may extort, some may be open to doubt, and others so far trivial as to lead to little or nothing. A sound and discriminating judgment must preside over our inquiries. The student must not imagine that by means of a table of questions he can sit down by his patient and draw up a perfect record. If even in mathematical investigations we see the mind of the philosopher shine through his rigid formulæ, how much more will the individual qualities of the observer be apparent amidst the refracting media through which medical truths are discerned. A table of questions may be useful in assisting the memory and in giving a degree of uniformity to our histories of disease, but the act of observation is not, and never can be, reduced to a purely mechanical process." pp. 3, 4.

The different methods employed in medicine of arriving at truth are arranged in three classes: *Personal observation—the study of recorded cases*, and the *numerical analysis of recorded cases*. Observation is, of course, the basis of all medical knowledge. But observation alone only presents us with detached facts. To deduce principles from these facts, they must be examined and compared in their manifold relations. Shall this be done in our own minds as we recall to memory the phenomena occurring under our personal observation? Or shall we apply the same power of recollection to the facts recorded by others, and thus draw our principles from the impression which this recollection has made on our minds? Or, lastly, shall we classify our facts, whether observed and recorded by ourselves or others, according to their more important relations, and enumerate their several coincidences and discrepancies? The numerical system, it should be remembered, relates not to the original observation of the phenomena themselves, but to the use that is made of them in deducing conclusions from them. It is from mistaking or overlooking this

truth that much of the prejudice against this method has arisen. Counting, it is said, is but a mechanical process, while the phenomena of matter and disease are far otherwise. But in truth this process is not applied, until by a rigid observation the facts are ascertained and properly subjected to mechanical, or rather to mathematical laws.

This method of analysis is of course liable to abuse as well as others. Facts may be assumed on insufficient authority. As in regard to circumstantial evidence in law, the circumstances must be proved, from which guilt is inferred, so here the facts must be established as true, before they can rightly be enumerated. Doubtful phenomena can lead to none but doubtful results. But in what other way can we even with well ascertained phenomena obtain sure and certain results?

Men of ardent temperament too, may draw conclusions from an insufficient number of observations. But this evil exposes itself to immediate correction. The enumeration exhibits not only the degree of constancy of particular phenomena, but the number and the completeness of the observations, thus presenting at once to the eye, the evidence of the weight of authority to which they are entitled. So far, therefore, from becoming a substitute to careful observation, the practice of enumeration is the greatest stimulus to it; because it exhibits more fully than any other mode of inquiry the deficiency of imperfect records.

"19. If the habit of recording cases rather improves than injures that of observation, the habit of analysing them exercises a still more beneficial influence. In the tables of the analyst every omission, though but in a single case of his series, becomes instantly obvious, and detracts from the completeness of his results. Take the cases given by Morgagni, by Laennec, by Andral, at least in the first four volumes of the Clinique Medicale, and submit them to analysis, and you will find your tables looking like a chess-board towards the end of the game, a statement here and an omission there, straggling facts and blank spaces. Indirectly, then, the numerical school has improved the observers whom it has taught to analyse, and through their example has raised the general standard of observation." p. 10.

The chapter under consideration gives a brief explanation of the leading circumstances which should be embraced in a complete history of a case of disease, and then presents the whole subject in a tabular view. It is not pretended that this can be entirely carried out in every case; perhaps not to its fullest extent in any. But by having it strongly impressed on the mind of the pupil and of the physician at the outset, what it is desirable that the history should accomplish, it may be hoped that some approach to such a history may be obtained. The filling up of particulars must be greatly modified by the peculiar circumstances of each case, as well as by the capacities and the opportunity to exercise them, both of the patient and the physician.

The number of those who will actually make observations for the benefit of others is small compared with the number of the whole profession. But the value of these instructions is not limited to them. Something like the same process of investigation is necessary in every case of disease, to enable the physician to acquire a sufficient knowledge of its character to fit him to prescribe for it. On this point instruction is greatly needed. Pupils enter upon the study of medicine, and it is to be feared, oftener upon its practice too, without any definite idea of the means by which they are to obtain a knowledg of the disease presented to their notice. How

often do we see physicians ask a few questions, almost at random, or trust to a doubtful and uncertain tact, to ascertain the nature of a complaint, instead of making an intelligent series of inquiries. A true tact will indeed do much; but it is by guiding the physician in his inquiries, and in obtaining significant answers, not as a substitute for investigation.

To the mass of people out of the profession, the whole matter is a mystery; and it is to this circumstance, perhaps, more than to any other, that the public at large are so little able or disposed to discriminate between the intelligent physician and the empiric. The process of investigation is equally hidden in either case, and there is but little reliance upon the general character of either to distinguish between them. Not unfrequently medical men increase the difficulty by an unnecessary display of mystery, as if the respect for their wisdom was in proportion to the degree in which it is concealed. The opposite is unquestionably true. It may well be doubted whether any scheme can be devised for the suppression or discouragement of quackery, so effectual, as for the legitimate members of the profession to improve their own knowledge, and exhibit it fairly in a full and patient inquiry into the phenomena of the diseases presented to them. If this is done plainly, in the simple desire to ascertain the truth for the benefit of the patient, it presents a far better view of the real intelligence of the physician, than he would be able to exhibit by any direct attempts to display his knowledge; and in due course of time, if not at once, his intelligence will be appreciated.

The means of ascertaining the existence and character of diseases are presented in a somewhat different point of view in the next chapter, on the *Signs or Symptoms of Disease.* Symptoms are divided into the *rational* and the *physical* signs. Under the head of the latter we have a concise, but very clear explanation of the phenomena observed in auscultation and percussion. One of the greatest obstacles to the earlier adoption of these methods of exploration by the profession generally, has been the great number of new terms with which their first introduction was encumbered; many of them in a foreign language, and therefore, however significant in themselves, not at all so to the minds of those who were not familiar with that language.

Our volatile neighbours on the other continent have such lively imaginations, that they often affix designations from a comparison with objects, to which our more sluggish fancies can discover only a faint resemblance. The greater difficulty is, that they are in a foreign tongue. Some of our young men return from abroad so laden with the wisdom of the old world, that they are unable to express their knowledge but in a barbarous mixture of divers languages. The better and the larger portion of them have become so accustomed to receive instruction on these subjects in another language, and have so associated the instruction they received abroad with the terms as well as the manner of the teacher, that they almost unconsciously continue to use their foreign idiom when speaking of these subjects at home. Our earlier treatises on auscultation were all translations from the French, and most of the later have been little more than imitations. The translators seem, in many instances, to have found it easier to adopt the original term applied by their authors to each separate phenomenon described, than to apply a corresponding one in our own language. Thus it happened that these new terms, a considerable number of which were from the very nature of the case unavoidable, instead of being, as in

the original, descriptive and therefore easily understood and remembered, became to English readers not only arbitrary, but in a sense barbarous. If it be said that physicians should be expected to know enough of the French language to understand their meaning, it may be answered that there would, in that case, be no occasion for a translation.

We would not carry our requirement of a translation so far as to the interpretation of proper names, as the French themselves are said to have done, in the times when honest Mr. Flint in the story, by a double translation became Pierre de Fusil in France and returned Peter Gunn. But terms of art or science, which derive all their appropriateness from their significancy, ought surely to be translated whenever there is a corresponding term in our own language equally applicable and significant. Why should the English reader be required to stretch his organs into a vain attempt to say *bruit de frottement*, or to pucker them into *bruit de soufflet*, while we have *friction* sound for the one, and good old Anglo-Saxon *bellows* sound, or, if you prefer it, a *puff* for the other? In some few instances the original term is so bad in itself, that it is quite desirable that a substitute should be applied. *Bruit de diable*, for example, is derived from an instrument so trivial as not to be known out of France. It conveys no meaning, certainly no appropriate meaning, to our minds, in the original language, and translation cannot help it. A *devilish noise*, besides the more than questionable propriety and decorum of the phrase, is not very distinctive.

We have been led to these remarks, not by the prevalence of the fault, on which we have commented, in the chapter under review, but by its unusual freedom from it. We know not where else so clear and intelligible an exposition of auscultation and percussion can be found. It is short and does not go into all the minute details, for its object is to be elementary. As an introduction to this branch of study for the pupil, it is excellent. It will be hardly less valuable to the practitioner who has already studied the subject in more elaborate works, to refresh his memory in long intervals of practice.

It is the fault of most works of this kind, that in their treatment of diseases too great a variety of remedies are recommended, and recommended too confidently. Every disease has its specified method of cure, often described with so much detail that the particular medicines to be given and the mode of administering them are pointed out. The novice has but to find out the name of his disease, and to look in his book for its appropriate remedy; and this, too, with little or no intimation that in a vast proportion of cases no remedy whatever will be of any avail towards the effectual cure of the disease. This work, as its title professes, confines itself strictly to the *principles* which should govern the physician in his treatment. In the histories of individual diseases it gives no specific directions for particular formularies of medicines, but points out the character of the disease and that of the treatment suited to it, leaving it to the reader's own skill to apply the principles to the case before him.

Care is taken, also, to attach no more than their due importance to the action of medicines. In the introductory chapter on the *Treatment of Diseases*, the editors remark:

"337. Opportunities for doing good in medicine are not limited to the effect of specific remedies, nor to the application of drugs and instruments. The enlightened physician surveys the whole ground of a patient's case, and looks for

the presence of any deleterious agents and unremoved causes of disease. Many morbid affections, which have resisted powerful remedies, cease speedily on the removal of their sustaining cause. A child is often sick from an error in the diet or habits of the nurse or mother. An individual frequently suffers from the quality and quantity of his habitual food or drink, or of his exercise, air, occupation and clothing. A patient dies of phthisis, under the influence of a damp northern climate, who might have enjoyed long life in a southern; and on the other hand, men fall victims to a fever and ague at the south or west, who would have escaped from disease by a timely removal to the north. It is as necessary, in many cases, that the physician should inquire into the situation, diet, habits and occupation of the patient, as that he should feel his pulse or explore his chest; and it often happens that the state of the one cannot be corrected, until the others have been previously set right."—p. 87.

Diseases are divided, with regard to their duration, issue, and susceptibility of relief, into *curable*, self-limited, and incurable. The first and last of these classes are plainly enough indicated by the terms applied to them. "In the second class, or that of *self-limited diseases*, it is intended to include those which receive limits from their own nature, and not from foreign influences; and which, after they have obtained foothold in the system, cannot, in the present state of our knowledge, be eradicated or abridged by art, but to which there is due a certain succession of processes, to be completed in a certain time; which time and processes may vary with the constitution and condition of the patient, but are not known to be shortened, or greatly changed by medical treatment."—p. 89.

The views of the editors, on this subject, have been more fully developed by Dr. Bigelow, in his discourse read before the Massachusetts Medical Society, in 1835, and published at that time.* These views are of great practical importance in the management of diseases. If it be true that certain diseases must go through a certain course in spite of every effort of the physician to cut them short, then it is obvious that such efforts are not only useless, but are liable to be highly injurious. In regard both to self-limited and to incurable diseases, the attention of the physician is directed to a wrong object, because an impracticable one, while he is attempting by active treatment to cut them short, or break them up, as the phrase is. It is not the least evil, that his labour is lost. Much direct suffering and injury are the immediate effect, and the patient is deprived of all that great amount of alleviation of suffering which a palliative course might in most cases produce. How often do cases of fever, which were mild in their beginning, become suddenly aggravated after the operation of exhausting remedies that were designed to destroy them? How many consumptive patients have made a more painful and more rapid, and no less certain, progress to the grave, in consequence of the bleedings, and the vomitings, by which their physicians have vainly hoped to cure them!

He who considers how large a portion of the ills of life, of every kind, has to be borne as best we may; to be assuaged and relieved rather than to be cast off, will not esteem the office of the physician unworthy of his best powers because much of his care must be directed to the palliation rather than to the cure of diseases. Better, surely, to be content with the mitigation of evils that cannot be removed, than by attempting what is beyond our powers, to put in jeopardy the good we might be able to accomplish.

* See the No. of this Journal for November, 1835, p. 148.

"361. The importance and usefulness of the medical profession, instead of being diminished, will always be elevated exactly in proportion as it understands itself, weighs justly its own powers, and professes simply what it can accomplish. It is no derogation from the importance of our art, that we cannot always control the events of life and death, or even of health and sickness. The incompetency which we feel, in this respect, is shared by almost every man upon whom the great responsibilities of society are devolved. The statesman cannot control the destinies of nations, nor the military commander the event of battles. The most eloquent pleader may fail to convince the judgment of his hearers, and the most skilful pilot may not be able to weather the storm. Yet it is not the less necessary, that responsible men should study deeply and understandingly the science of their respective vocations. It is not the less important, for the sake of those whose safety is, and always will be, committed to their charge, that they should look with unbiassed judgment upon the necessary result of unavoidable causes. And while an earnest and inquiring solicitude should always be kept alive, in regard to the improvement of professional knowledge, it should never be forgotten, that knowledge has for its only just and lasting foundation, a rigid, impartial, and inflexible requisition of the truth."—p. 97.

The first chapter of the original work, the fifth of the American edition, is on Inflammation, and contains a succinct, but, on the whole, an able and clear exposition of the leading phenomena of that important process. It is not, however, altogether free from the fault, to which we have before alluded, of giving a more than equal proportion of attention to some favourite point, in comparison with others of greater intrinsic consequence. Under the head of *Inflammation as a curative means*, he finds room for a detailed account of Dupuytren's method of curing artificial anus, with two diagrams; of the operations for prolapsus uteri by incisions in the vagina, and of nævus by puncture, with three representations, the two last of which, he claims to have first suggested himself. These details are not without their importance in themselves, but they seem a little out of place in an epitome so concise, as that less than a single page is devoted to a consideration of the constitutional symptoms of inflammation.

In speaking of the question whether, in the human subject, parts once entirely separated from the system can ever be reunited by organization with true vascular connections, both the author and the editors appear to have overlooked the cases, reported by Dr. Balfour of Edinburgh, of a perfect reunion of considerable portions of the finger, after having been completely separated. Dr. H. repeats, not very accurately, the old story of the nose that was bitten off and grew on again, but expresses a doubt whether there was a vascular union; and adds a case in which the tip of the finger was cut off, and being reapplied, adhered. It remained without sensation but was apparently vascular. The editors relate a similar case. In Dr. Balfour's case more than an inch of the index finger was cut off, and several minutes passed before it was re-applied. It adhered, and "recovered both heat and sensation."* In that of one of his correspondents, "the finger had been off an hour and a half before the dressing, and yet the union was so far effected in a week, that pulsation was distinctly felt at the end of the finger,"† and in that of another the thumb of the right hand was cut off close to the joint with the metacarpal bone, and was replaced after about eight minutes. The union was so perfect, that six months after, the attending surgeon reported that "the man has been working for some months past enjoying all the advantages of his thumb,

* Edinburgh Med. and Surg. Journ. vol. x. p. 429. † Ibid. vol. xi. p. 317.

only the motion of the joint is impaired." The patient attested the correctness of the statement by signing it with the hand that suffered the injury.* We have ourselves more than once seen a considerable portion of the finger unite, with an entire restoration of all its functions, after a separation so nearly complete that it was scarcely conceivable that the small portion of the skin which remained could have had any considerable influence in preserving its vitality. Dr. Balfour believes so fully in the power of perfect reunion as to propose, that in the operation for the renewal of lost parts, the portion to be inserted should be taken from any part of the body where it can best be spared, believing that the small strip of skin that preserves the union, in the common mode of operating, is of no importance to the successful result. This would, certainly, at times, be a much more convenient method. A man who should have lost that important ornament, the nose, has only to purchase a fragment from some neighbour, who is blessed with a superfluity. The surgeon is saved the difficult task of shaping so refractory an organ; and the patient is spared the perpetual labor of daily shaving it, as is said to have been sometimes necessary in the ordinary way of manufacture, where the material has been taken too much from the hairy scalp.

The chapter on bloodletting furnishes another striking example of the author's proneness to dilate on a favourite topic. An explanation of the effects of bloodletting in modifying the character of diseases, or of its influence as a remedy, might well have a place in a treatise on the principles of medicine; of the practice, at least, if not of the theory. But this is neither the one nor the other. It is merely an assertion and explanation of his rule for determining the propriety and extent of bloodletting, which is more fully developed in his "Researches on Bloodletting." The method, as most of our readers doubtless know, is to place the patient in an upright posture and bleed him to incipient faintness. "I would propose," says Dr. H., "that, in every case in which full bloodletting is to be instituted, the patient be placed perfectly erect in a chair, or in bed, and bled to the very first appearance of deliquium." p. 206. If much blood is lost before faintness begins, the patient required it and will be benefitted by the operation; if, on the other hand he faints with the loss of a little, he should not be bled at all. This might seem a little like the rule for trying a witch. If she swims she is a witch and must be burned, if she sinks she may be drowned, indeed, but she is no witch. Dr. H. says there is no danger because "the remedy is at hand." The fainting patient may be revived; the drowning witch (who is "no witch") may be dragged out. But whether either would come off quite scatheless, is a question.

The author regards this method as affording

"1. A rule for bloodletting, in all cases in which this measure is required to be fully instituted. 2. A guard at once against inefficient and undue bloodletting; and 3. A source of diagnosis."—p. 205.

Upon the strength of this single *principle?* he frames a classification of diseases, and arranges them in a table: "I. Augmented Tolerance," "II. Healthy Tolerance," "III. Diminished Tolerance"—beginning with congestion of the brain which *tolerates* the loss of XL or L ounces of blood, down to the cholera which *tolerates* no more than VI ounces. How simple is the practice of medicine! The whole application of one of

* Edinburgh Med. and Surg. Journ. vol. xi. 452.

the most active, and, in some cases, one of the most valuable, of all our remedies, is now reduced to so simple a rule that "he who runs may read," and he who can use a lancet may practice it. Alas, that every rule will have its exceptions; and every practice, however excellent, will be met with objections. The author candidly states them, and the latter he easily obviates. "It seems," he says, "almost needless to allude to the case of early syncope from *timidity*. It is only necessary to arrest the flow of blood, to lay the patient recumbent, and to wait until his timidity has subsided." p. 208. Aye, but how is "the young practitioner" to distinguish faintness from timidity, from intolerance, from the nature of the disease?

"Two objections," adds our author, that just mentioned being too trivial to be regarded seriously as an objection, "have been made in reference to this rule for the administration of bloodletting; the first is that in some cases, not inflammatory, more blood might be taken than the patient could bear to lose, in order to institute the test; my reply is, that such cases are not *included* in my proposition, which only relates to cases in which bloodletting *is required to be* FULLY *instituted.*"*— p. 208.

We must, then, after all, find out some other means of determining whether it is safe to apply this universal rule. The test itself requires a test. The editors, in an additional section, express their dissent from many of the positions in this chapter. "The practical application of the rule," they say, "is by no means free from difficulties." The rule is intended to apply only to cases "in which bloodletting is required to be fully instituted." But it may be asked, how are we to know these cases? Either by the author's test or not. If we apply the test to discover them, we may do mischief by bleeding when we should not. If we can find them out without the test, then the test is superfluous." p. 212.

Two previous chapters on "Irritation," and on "Exhaustion," are but appendages to this on bloodletting, notwithstanding their precedence of it in the book. The subject of irritation is not treated of generally; but a particular case is selected in order to show that the phenomena produced by it, may be distinguished from those of inflammation, which they imitate, by means of the bloodletting test. *Exhaustion* from loss of blood, only, is spoken of in the chapter on that subject; and here, the most prominent object of remark, is the reaction after excessive loss of blood, which occasionally imitates the appearance of inflammatory action to such a degree, in the author's opinion, as not unfrequently to have led to most injurious repetitions of the bleeding. We doubt not that where copious bloodletting is freely practised by physicians there may be some occasion for the author's solicitude to produce a right impression on this subject. But we cannot but express our surprise that any man of the least practical experience in medicine, should be so led away by a hobby, as to think of enforcing such a rule of practice for an object like this; or indeed for any object that the nature of the case will admit of. "In *every* case in which full bloodletting," &c., let the patient be placed perfectly upright. Did he never see a case of inflammation, of the chest or peritoneum, in which every motion was agonising? And must the patient be bolted upright in his agony, because the physician has no other means of knowing whether this be really inflammation; or, if it be inflammation, in the idle fear that he may take a few ounces too much or too little of blood? As if there were no other means of estimating the effects of the loss of blood on the system;

* The Italics and capitals are so in the original.

as if the state of the pulse, the countenance, the respiration, the general aspect, were nothing.

There is an intermediate chapter on Sinking which quite redeems us from our indignation, and brings us back to our former complacency with our author. The unwary physician, and too often the most wary will meet the same disappointment, not unfrequently finds his favourable prognosis belied by a sudden and apparently almost or quite causeless sinking away of all the powers of life, which in most cases nothing will relieve. There is nothing perhaps which so severely exposes the confidence of the patient's friends in his physician, for to the patient there is soon no place for either confidence or distrust, as an unexpected occurrence of this sort. In some cases no degree of watchfulness or sagacity may enable him to descry the approaching danger. Sometimes he may do it, and perhaps anticipate and prevent it. At all events there is great advantage in his being fully warned, as here he is faithfully. He may at least be on the look out, and thus be the first to perceive the approach of evil; and if his previous prognosis has not been too confident he may save his own reputation harmless, even when he fails to benefit his patient.

Fevers Dr. Hall divides into three classes, Synochus, Typhus, and Intermittent. By *Synochus* he does not mean the disease so designated by Dr. Cullen, but "the *common* fever of this climate [Great Britain], as it arises from ordinary causes. It was used in this sense by the late Dr. Willan, and some term distinctive of such a form of fever from typhus is essentially necessary to the inquiry into the nature of fevers. It is that form of fever which is most frequently seen in private practice, amongst the middle and higher ranks of society; it is comparatively rare in hospitals." p. 232. There are weighty objections to this use of the term. If the introduction of new names for diseases is a serious inconvenience, the application of a term long in use to a new form of a disease is not only much more so, but is also extremely liable to lead to misapprehension and mistake. The division itself is to our minds of more than questionable validity. Especially in this country of republican equality, we greatly doubt if the diseases of the "middle and higher ranks of society" are so different from those found in hospitals as to demand a distinct term to designate them. We see nothing in the author's description of the disease to mark very clearly its peculiarities, as compared with other forms of fever; except indeed its aristocratic preference for certain "ranks of society."

The American editors, instead of confining themselves to Dr. Hall's division, extend the number to eight, viz: 1. Synochus; 2. Typhoid Fever or Dothinenteritis; 3. Typhus; 4. Intermittent Fever; 5. Remittent Fever; 6. Yellow Fever; 7. Congestive Fever, Spotted Fever, &c.; 8. Plague. The editors have omitted the original section on typhus, which was intended by the author to embrace all continued fevers not included under the preceding term of synochus, and have substituted two others, on typhoid fever, and on typhus. These sections give a lucid summary of the results of the latest published observations on these subjects, with figured illustrations of the morbid anatomy. These illustrations are copied from the original edition, although the designation of the disease to which they belong is changed.

Objections have been urged against attempting, in the present state of our knowledge of fevers, to establish a distinction between typhoid fever and typhus. It is by no means proved that they are essentially different

diseases. They may be mere varieties of the same disease modified by the various circumstances which are known to influence diseases in other cases, as climate, season, and epidemic influences. The distinction too, it is said, is founded not upon a difference of the symptoms observed during life, but upon the character of the anatomical changes ascertained after death.

But it is sufficiently well established that there are very important differences in the phenomena and effects of the great majority of cases of the fevers that have prevailed in Great Britain within the last five years, and those of the European continent, more especially as observed in Paris, and those of New England. The fevers of New England agree remarkably with those of Paris, and differ greatly from those of Great Britain. The same differences have been observed on a smaller scale, in different cases occurring at the same place, particularly in Philadelphia, where the discrimination between the two forms of fever has been carefully made by Dr. Gerhard.* In the strongly marked cases the two forms of disease are so unlike as to be readily distinguished. In other cases they approximate so that they can only be known from each other by the appearances ascertained after death.

It matters little, in reference to the propriety of this division, whether we consider these differences as constituting essentially distinct diseases, or merely as varieties of the same disease. In either case, the difference of phenomena remains, and must constantly be borne in mind in order to understand the true character of the disease. It is certainly more simple to express these distinctions by a separate designation applied to each class of phenomena, than to preserve one term for both classes, and distinguish them by additional appellations, or by descriptive circumlocution. The chief evil arises from attaching too much importance to a name. We have not yet gotten wholly rid of the effects of the attempts to render nosology a matter of natural history, as if diseases assumed and preserved a fixed character capable of being defined and reduced to system like the objects which engage the attention of the naturalist. In reference to such a system, a full specific difference of character must be established before a new specific appellation can be allowed. But in the view that we take of diseases, any important distinction that must be known and remembered in order to understand the character of the disease, may be good ground for a distinctive term. There is need surely of a sound judgment in the application, and especially in the selection of such new terms. We could have wished that a better selection had been made in this instance. All that is essentially important is that so clear a description should accompany every new designation, that no false impression should be made by it, and no unfounded association be attached to it.

It is remarkable that the original author should have passed over without notice such important diseases as remittent fever, yellow fever, and plague. The deficiency is supplied by the editors.† We cannot, however, go into a particular examination of these sections; nor indeed of the remaining

* See this Journal for February, 1837, p. 289, and August, 1837, p. 289.

† In the history of yellow fever on page 274, there is an error in the statement of the case of the ship Two Brothers, in which that disease arose in Boston in 1819. The crew of the vessel were not affected by the disease after her arrival, although many other persons were. The case affords a striking illustration of the influence of a gradual exposure to an active poison in diminishing the susceptibility of the system to its injurious effects.

portions of the work. If we were to extend our comments upon all the topics discussed in the ample volume before us as freely as we have upon some of those which we have noticed, our review would hardly fall short of a volume of equal dimensions. We have said enough to give an idea of some of its peculiar features, and, we trust, enough to express our high opinion of its general value as an eminently useful practical treatise. The notice we have taken of some of the author's favourite positions may possibly have given an impression that the work as a whole is strongly tinctured by his speculative views. Such an impression would be highly unjust. Taken in connection with the corrections and additions of the editors we scarcely know any work, of such extent, that has so little that is merely speculative, or so much that is practically useful.

The descriptions of diseases, numerous and concise as they necessarily are, are remarkable for the vivid impression they present of the disease in question, as exhibited in its actual phenomena. There is little of theoretical discussion; much of historical information, and of a practical exhibition of facts and observations. The treatment too is free from that overloading of remedies, with which most similar treatises are burdened. Although we have already said so much on this subject, we cannot forbear to extract the following excellent remarks of the editors on the false estimate too often made of the efficacy of remedies. After speaking of the conflicting testimony in favour of opposite modes of treatment of yellow fever, they add:

"To us it appears that the principal cause of these contradictions is to be found in the disease itself, and not in the treatment. The poisonous miasm of yellow fever, like the unknown cause of cholera, acts with different intensity in different seasons and places; it is generated slowly or rapidly, in greater or less quantity, with more or less active qualities. It may moreover have to act upon a mass of population very differently predisposed, in different years and seasons. Nevertheless, we are constantly meeting, in the history of fatal epidemics, with the same false confidence, the same discrepancies which we find in that of the disease in question. To assume that nature cannot form a poison more active than any remedy; to select a fortunate series of cases and attribute all the results to treatment; to find some specious reason for every instance of failure; to frame a triumphant formula which the next breath of the pestilence will sweep away—such has been too often the course of those who have usurped the place of true observers. The first question asked by the surgeon of those who have been wounded in action, is, what is the nature and extent of the injuries received? But the degree of activity of a destructive miasm, which instead of inflicting a palpable mechanical injury, has mingled itself with the circulating fluids, and shows its intensity in the symptoms which follow, is thought an insignificant element in the history of a series of cases to which the name of a disease has been assigned, and all the important effects are attributed to the loss of a few pounds of blood, or the exhibition of a few drugs and potions. As well might the surgeon forget to tell us whether his patients were shot through the brain or through the biceps, and confine his account to the nature of his dressings." p. 279.

The author in his preface, as is the wont of authors, modestly states his object to be the benefit of "the medical student, and the young practitioner." To such the work, especially in its American dress, is, as we have said, eminently calculated to be useful. Nor is its usefulness by any means limited to them. There are many physicians of riper years, whose reading has not kept pace with the rapid progress of professional improvement and change, and who have little leisure or opportunity to go through

the details of recent observations. We know not where else they will find so good a summary of the best medical knowledge of the present day; exhibiting in general, able and correct views of the most important results of recent investigations in all the varieties of disease to which man is subject.

We have spoken of this work chiefly as we find it in the volume before us. We have purposely avoided any question that might arise between the author and the editors in regard to the liberties they have taken with his production. It is sufficiently apparent from what we have said that our highest estimate of value is attached to those parts which are original in this edition. There may possibly be some partial judgment in this opinion arising from our personal knowledge of the ability of the editors for such a work. But we believe it to arise much more from the evidence they have furnished of their ability in the work itself. Having no peculiar hypotheses to support, and no new discoveries of their own to vaunt, they were free from some of the temptations which beset the author. Being practical men, and men of practice withal, their good judgment has enabled them to overrule some of his extravagancies and correct some of his errors. We think they would have made a still better book, if they had done this more freely; but we doubt not they were restrained by a consideration of the respect due from an editor to his author.

The mechanical execution of the work is not very elegant. As a work for students, those who have had experience of the treatment which books ordinarily receive at their hands, will not regard this as a matter of much consequence. But for the table or shelves of the physician's library a better style of printing is truly desirable. The Boston press has furnished us with some very good specimens of medical printing. The translations of Louis on typhoid fever and on phthisis, Warren on tumours, and still more the recent translation of Louis on yellow fever are issued in a style highly creditable to the taste and liberality of their publishers.

It is even said, indeed, that these publications have not been met by a corresponding liberality on the part of physicians, and that cheapness is a much more sure guaranty for the sale of a work, than excellence. If it be so to the full extent, the publishers of course are not to be blamed for conforming to the miserable taste of their patrons. But we blush for the profession, if their niggardliness is such as to be a just apology for all the diminutive type, coarse paper, scanty margin, and sheep-skin covers in which our medical books are generally supplied. E. H.

ART. XIII.—*A Treatise on the Diseases of Infants, founded on recent Clinical Observations and Investigations in Pathological Anatomy, made at the Hospice des Enfans-Trouvés: with a Dissertation on the Viability of the Child.*—By C. M. BILLARD, M. D., &c., &c., with notes by DR. OLLIVIER, of Angers. Translated from the third French edition, with an appendix by JAMES STEWART, M. D. New York, George Adlard, 1839, 8vo., pp. 620.

As this work of M. Billard is generally acknowledged to be one of the most important on the subject of which it treats, of any that have hitherto

been published, we believe we shall not do an unacceptable service to the profession, by giving a condensed analysis of its contents. The chief object of the work is to exhibit the peculiar character of infantile diseases, and to consider them in relation to the alterations which the organs have undergone. Each system, accordingly, is passed successively in review, and the varieties of form and appearance of every organ, are presented, with reference to its healthy, abnormal and pathological condition, and then deducing the treatment, after the symptoms and the nature of the anatomical lesions are duly considered. This opens, as it were, a new field, one which has not hitherto received the attention of any who have occupied themselves in the investigations of pathological truths. M. Billard shows very clearly, that while each texture possesses, equally with its particular species of vitality, its own peculiar diseased action, the period of life, also, exercises an important influence in the development of morbid affections.

The author has enjoyed a rare opportunity of pursuing his investigations in relation to the diseases of children, in the Hospice des Enfans Trouvés, in Paris; and the present work furnishes ample proof that these advantages have been abundantly improved.

Part first treats *of the Phenomena which are presented on examining externally the condition of the Child.*—A knowledge of these in the healthy state is deemed essential, as it enables us to appreciate the modifications they undergo in disease. On this account they become important marks of comparison.

Attitudes of the Child.—The flexed position of the limbs, and the forward curvature of the trunk, constitute the peculiar position of a newly born infant. The different periods at which an infant assumes new attitudes, vary according to the degrees of muscular strength. M. B. believes that the muscular contractions which determine the attitudes of an infant, are under the influence of the will, and thus become evidences of the activity of the sensorial power, and that the brain has commenced the exercise of the powers to which it is destined, though, at birth, they are purely automatic in their character. In a short time, however, it is able to extend its arms and hands towards the objects within its grasp, seizing such as are agreeable and avoiding those which will give it pain. To the voluntary motions of the arms succeed those of the head; which, from being tottering becomes fixed upon the neck. At the end of a month the faculty of vision is so much improved, that the infant will turn its head on the pillow, to the right hand, or to the left, when a brilliant object is brought alternately to one side or the other. At two months the infant is generally able to support its head, when it may be carried in the arms without danger of suffering from fatigue; at four months the spine is sufficiently consolidated to support the body in an erect sitting position; at the eighth or ninth month it essays to sustain itself upon the legs and to walk; so that the motions of the head, neck, trunk, and lastly of the inferior extremities, follow each other in their developments, and all the functions of the system become developed, perfected, or altered, in connection with the organisation upon which they depend.

The Colour of the Skin.—The colour of new-born infants is red, owing to the predominance of blood in the tissue of the skin. From the fifth to the eighth day after birth this hue diminishes, but in some cases continues a longer time, though less intense than at first. It gradually becomes of a

violet colour, which is not always an evidence of health, as it often coexists with an œdematous swelling of the limbs. To this primitive sanguineous colour, indeed, several peculiar hues succeed. The integuments become of a beautiful rose, of a remarkably white, or of a yellow, more or less deep. The rosy and vermillion hue, accompanied by firm elastic flesh, is generally an evidence of health. About the age of two or three months, we begin to discover the shades of colour, and the prevailing hue of each infant; before that period the dark-complexioned cannot be distinguished from the fair.

Desiccation of the Umbilical Cord.—The desiccation of the umbilical cord and the time of its separation from the abdomen, differ very considerably in different individuals. Some umbilical cords are large, soft and thick, containing much gelatine; others contain but little, and are small and thin, and desiccate rapidly. About one-third are of the latter kind. Of eighty-six infants, which came under M. B.'s notice, the cords of sixteen were a little shrunk, but at the same time quite fresh. They were soft, bluish, and very flexible, and completely filled the ligature; the cut surface was quite smooth. Of these sixteen, one was of the age of five hours, six of one day, four of two days, and four of three days. But the desiccation generally begins on the first or second day, but sometimes as late as the fourth day. The period of the complete desiccation of the cord varies from the end of the first to the fifth day; on the third day it is generally completed.

M. B. believes that the desiccation of the cord is altogether a physiological phenomenon, belonging to the assemblage of vital phenomena, and entirely dependent on them. When the cord is cut the vessels immediately retract and disappear in the gelatine, which begins to dry away, while the exterior membrane retains its suppleness. The cord shrinks shorter; at the same time a general constriction takes place from the circumference to the centre, whereby the vessels become compressed, flattened and tortuous, and at last partake themselves of the desiccation. Progressing towards the navel, the desiccation at length stops at the umbilical ring, from which the cord is soon separated, either by a proper suppuration, or a spontaneous detachment analogous to that by which the stem of a cucurbitaceous fruit is separated. That part of the cord attached to the placenta does not exhibit the phenomena of desiccation, like the portion remaining with the child, but shrinks and decays like a dead substance, whilst the abdominal portion is not so affected. Here the desiccation ceases as soon as life is extinct; it either does not proceed in still-born children, or it is considerably retarded. In place of drying and separating at the end of a few days, as is observed during life, the cord undergoes, in the dead body, a perfect decomposition, differing entirely from its normal desiccation.

We have often witnessed this phenomenon in infants, brought into the dissecting room, when the cord would continue moist for many days; so that a fœtus may be injected very readily from the umbilical cord as late as the fourth or fifth day. This is an important fact in its application to legal medicine, for it will aid very materially in determining whether the child was born alive, or lived long after birth. M. B. deduces the following conclusions from a large number of observations, viz: 1. The desiccation of the umbilical cord cannot take place except during life. 2. At the period of death the desiccation is suspended, or considerably retarded.

3. If the cord be fresh, or the shrinking but just commenced, the infant may have been still-born, or have lived but a very short time. 4. If the cord has already exhibited the beginning of desiccation, or is completely dry, the infant has lived at least one day. The more recent the death of the fœtus, the greater is the dependence upon these conclusions.

Separation of the Umbilical Cord.—M. B. maintains that the separation of the cord is the result of the constriction which the indurated gelatine exercises upon the umbilical vessels at the umbilicus, and also of the continual pulling from this narrowed point of the cord, so dried and fragile; and that there is neither gangrene of the cord, as Haller thinks, nor constriction of the epidermis, as is asserted by Gardien—a constriction which so inert a pellicle could hardly exert—nor yet a contraction of the skin with inflammation of the umbilicus, as Capuron pretends, neither that it is caused by an active inflammation attended with suppuration, as maintained by others, this last condition having no existence except in peculiar circumstances.

Cicatrization of the Umbilicus.—As the cicatrization of the cord advances, the circumference of the umbilicus appears at first to gather in folds; and it often exhibits a double cutaneous ring, one within the other. The cord detaching itself in a circular manner, the umbilical circle becomes loose, forming a funnel-shaped hollow, at the bottom of which the cord may still be held by one or two vessels which soon separate. In this hollow will be found the ruptured extremities of the vessels, surrounded by cellular tissue, and maintained on a level with the aponeurotic circle, which the *linea alba* forms at this point by a continuation of the *fascia transversalis.* Upon examining the centre of the umbilicus with attention, a sort of hardened tubercle will be seen, produced by the obliterated extremities of the arteries and veins united. As the infant advances in age, this space becomes narrower, the tubercle and the umbilical centre sink inward, the edges of the cutaneous ring approach and become almost in contact, while a true cicatrix forms and solidifies on a level with the vascular tubercle, which retracts more and more in drawing to it the irregular centre of the umbilical cicatrix.

Exfoliation of the Epidermis.—Soon after birth the epidermis begins to exfoliate, sometimes in small furfuraceous scales almost invisible to the naked eye, sometimes in broad plates or pellicles resembling those which form on the surface of milk at the point of ebullition. This process is at its height from the third to the fifth day, though its duration is very variable, sometimes continuing till the thirtieth or fortieth day, and even for two months.

The cause of this epidermic exfoliation is obvious. The integuments of the infant are, for about seven months, immersed in a liquid which keeps them constantly supple and moist. The epidermis, until the period of birth, is, as it were, soaking in the waters of the amnios. When exposed to the air it becomes suddenly dried, and loses the suppleness peculiar to it during the intra-uterine existence. Hence results a cracking and scaling of the epidermis, and its final separation in the form of plates or powder. The result of M. B.'s researches on this subject is, that the cutaneous exfoliation of young infants is a natural phenomenon, and decidedly one of health.

Size and Weight of the Infant.—Professor Chaussier has stated that the embryo increases at the rate of two inches a month; whence it must fol-

low, that at the period of birth it will be about eighteen inches in length. From a very large number of observations, M. Billard shows that from sixteen to seventeen inches is the ordinary size of newly born infants, though Chaussier gives instances where they measured twenty-seven inches. The average weight of infants born at the full period, is stated to be from five to five pounds and a half.

Of the Cry of Infants, considered in relation to Semiology.—The cry is nothing more than a sonorous inspiration and exspiration, and varies in infants as much as the tone of the voice in adults. The proper cry is sonorous and prolonged, and heard only during exspiration; the other part is produced by inspiration—the air in passing through the glottis, in order to reach the lungs, being compressed by a kind of spasmodic contraction of the vocal muscles, giving a shorter and more acute sound than the proper cry, and often less perceptible. Sometimes this interval or reprise is not heard at all, and the proper cry exists alone; or the reprise may be heard, while the cry is stifled. M. B. goes into a very minute and philosophical analysis of the cry, as an index of disease, pointing out its various modifications and deducing some practical conclusions highly important to the practitioner. For an acquaintance with these we must refer the reader to the work itself.

Expression of the Face.—Next to the cry, the expression of the face is one of the principal means by which a child manifests the sensations it experiences. In a state of quiet and health, the face of the child presents no wrinkles, the bony prominences do not appear, the cheeks are round, and there is scarcely any expression in the physiognomy; but no sooner is it under the influence of pain or of joy, than there occurs a very remarkable change in the physiognomy. The marks of pain in an infant can be perceived during the first month, by vertical and horizontal wrinkles at the root of the nose, the eye-lids approach, and a number of wrinkles appear at the external angle of the eye, or are delineated in a circular manner in the direction of the orbicularis-palpebrarum muscle. The painful sensations, indeed, act sympathetically on the organs of circulation and respiration, and the entire nervous circle described by Sir Charles Bell, experiences by irradiation a sudden excitement, whence results the assemblage of thoracic and facial contractions seen in a child while crying and suffering; excessive joy will likewise produce a commotion in the circulatory organs, but it suspends much sooner than it accelerates their movements; and it is well known that excessive joy will cause syncope quicker than excessive grief. Infants rarely smile before they are three weeks old, though they take part in the attempts made to obtain a smile. "In pain," says Cabanis, "the animal retires within himself, as if to present the smallest possible surface; in pleasure, all the organs seem to unfold, as it were, to receive it in all parts."

State of the Pulse in Children.—Most writers assert, without any exception, that the pulse in children is much more frequent than in adults; but M. B. shows that this is only true in the greatest number of cases, while in many the pulse is nearly as slow as that of some old men. Thus in forty children, aged from one to ten days, apparently in good health, there were eighteen where the pulse beat less than 80; in two it beat 86; in one 89; in four 100; in ten from 110 to 125; in one 130; in two 145; in two 150; in one 180. Thus there were as many children in whom the pulse exhibited about the same number of beats as is usually observed

in an adult, as there were of those in whom it beat with much greater rapidity. The pulse increases in frequency in proportion as the child advances in age. It is often irregular in the young infant, jerking, small thread-like and easily compressed, and not always isochronous with the beats of the heart. The pulsations also are often so indistinct as to render it impossible to count them. The First Part of the work ends with a chapter on *Feebleness of Birth*, which contains many judicious and important observations.

The Second Part treats of the *Diseases of Infants;* which are classified under Affections of the Skin, Cellular Tissue, Digestive, Respiratory, Circulatory, Cerebro-spinal Apparatuses, Locomotive System and that of Generation.

Diseases of the Skin.—*Malformations and Congenital Diseases.*—The embryo has no distinct skin till the middle of the second month, at which period the epidermis begins to show itself. Until about four months and a half the skin is thin, colourless and transparent; it then assumes a rosy hue until about the eighth month, when it becomes paler, except in the folds. The sebaceous follicles appear about the middle of pregnancy, first in the head and afterwards in the other parts of the body; at seven months the caseous envelope appears, and at birth the skin is covered with it, and is of a rosy white. The affections noticed by M. B. under this head, are *Absence of the Skin; Cutaneous Excrescences; Alterations of Colour; Spots, or Nævi Materni.* The second section of the chapter treats of *Diseases of the Skin not inflammatory, developed during Birth, or occurring subsequently to this period;* among which are *Ecchymoses, Tumours of the Scalp, Contusions and Petechiæ.* The other sections treat of *Congenital Inflammations of the Skin; Inflammations developed after Birth.* In treating of the other cutaneous affections, M. B. follows, in general, the classification of Willan and Bateman, modified by the more recent work of MM. Biett and Rayer. With Rayer, he denominates inflammation of the skin all diseases characterized, at their commencement, by an accumulation of blood in one part, or in the whole of the surface of this membrane; an alteration followed by a complete resolution, desquamation, morbid secretion, ulceration, induration, or other changes in the organization of the part affected.

The *syphilitic* affections in young children may be known by the eruption following other venereal symptoms; by their resisting the usual treatment of simple cutaneous diseases; by their constant tendency to spread and ulcerate; by their exhibiting a cupreous appearance, particularly on the use of mercury, sudorifics and other remedies used for the treatment of syphilis; and finally, by their manifestation under circumstances proper for the development of the venereal disease. It should be recollected that the exanthemata, pustulæ, papulæ and tubercula are the cutaneous diseases which most often assume a venereal character, and that of all the symptoms produced by mercury, cutaneous affections are the most frequent, rendering the diagnosis both obscure and difficult.

Erysipelas.—This disease attacks children oftener than any of the other phlegmasiæ, owing to the sanguineous congestion of the skin and its consequent irritability. Of thirty cases of erysipelas recorded by M. B., sixteen were simple, three œdematous, six phlyctenoid, four phlegmonous, and one of the miliary form. In two the face was affected, in sixteen the trunk, in twelve the limbs. The ages varied from one day to a year, and

eighteen were below the age of six months. On dissection, gastro-enteritis was found in two, enteritis in ten, pneumonia complicated with enteritis and cerebral congestion in three, and in one pleuro-pneumonia. This disease terminates either by resolution, epidemic desquamation, or by suppuration of the subcutaneous cellular tissue. It is less often accompanied by gastric symptoms than when it occurs in adults, but is usually attended with symptoms of enteritis. It almost always produces an acceleration of pulse, heat and dryness of skin, together with pain and wakefulness. Its duration is from six to twelve days. It varies from that of a simple erythematic redness to that of considerable tumefaction, hard to the touch, of an intense redness, and sometimes of a violet colour.

The *treatment* varies according to the complications. Emollient applications should be made to the inflamed integuments, particularly when the erysipelas has a tendency to terminate in suppuration, and also to prevent the formation of sinuses under the skin, which follow suppuration of the cellular tissue. The enteritic or pneumonic symptoms which supervene, should be met by the administration of mucilaginous drinks, with but little nourishment. The external causes of irritation should be removed; and if the affection be simple, there will be no occasion for any other than topical applications, an attention to diet, drinks, &c.; a severer form is to be met, in addition, by local bleeding and internal remedies.

We observe nothing particularly new under the head of Rubeola and Scarlatina, except the translator's observations on these diseases in the Appendix; which are characterized by great judgment and discrimination, and eminently worthy of the most attentive perusal.

We are obliged to pass by the other cutaneous affections treated of by our author, which occupy nearly ninety pages of the volume, that we may devote the remainder of our article to those diseases which are of most frequent occurrence in this country.

Diseases of the Digestive Apparatus.—In treating of this class of diseases, M. B. adopts the division of the alimentary canal, who considers it as consisting of the cephalic, thoracic and abdominal or subdiaphragmatic portions. After considering congenital malformations, such as *absence of the mouth*, *obliteration of the mouth*, *hare-lip*, &c., he proceeds to treat of the inflammatory affections of the mouth, or the various kinds of *stomatitis*, viz. *erythematic*, *muguet*, (with altered secretion,) *aphthæ*, (follicular) *ulcerous* and *gangrenous*.

Muguet.—This peculiar disease of the mouth was first noticed by MM. Breschet and Guersent, previous to whose labours it was usually confounded with aphthæ. Its peculiar characteristic is a concretion of mucus on the surface of inflamed mucous membranes, whether the membrane be an epithelium or not. This concretion may be observed in the mouth, œsophagus, stomach and small or large intestines. When in the mouth, it appears either under the form of very small white points, dispersed upon the tongue and parietes of the mouth; or of variously sized threads; or, lastly, of a membrane entirely covering the tongue, or spread over the other parts of the buccal cavity. This excretion is preceded by an erythematic inflammation of the surface of the tongue, or of the parietes of the mouth. When the inflammation has continued one, two, or three days, there are seen at the extremity, or on the sides of the tongue, or on the internal surface of the lip, small white points which appear to crown the papillæ of the membrane to which they adhere; indeed, it is a morbid

concretion of mucus. When the inflammation makes no progress, these white points soon disappear; but when it persists, they unite and form small laminæ either on the surface of the tongue, lips or cheeks, which exfoliate and detach themselves, leaving an inflamed surface, which soon secretes materials for a new concretion; until, at last, the inflammation ceasing, the reproduction of morbid matter is no longer to be observed. This affection follows an accumulation of blood in the inflamed mucous membrane, and the pellicular production replaces the normal secretion of mucus. It seems to be owing to the fact, that the blood of children is rendered more plastic and rich in fibrin by the inflammatory condition, thus supplying the elements of a mucus abounding in fibrin. Feeble children, and those that are crowded together, are most subject to this affection, and it prevails with almost equal intensity during every period of the year, though it is more common in winter than summer. The disease is not contagious; nor does it occasion any general symptoms, except heat of skin and great thirst. It is sometimes complicated with other phlegmasiæ; in fifty total cases, M. B. found inflammation of the cerebro-spinal apparatus in two; of the skin in four; of the respiratory and circulatory apparatus in twelve; and of the digestive apparatus in thirty-two. In ten of the latter, the stomach was not inflamed, showing that the affection is not always attended with gastritis.

Treatment.—When the disease is simple, nothing more is necessary than to moisten the mouth of the child several times a day with a piece of lint soaked in a decoction of marsh-mallows. Sometimes a weak solution of chloride of soda is very beneficial, or a little alum. When the disease is more severe and complicated, it must be met with appropriate treatment, such as is pointed out under the history of each of these diseases.

Aphthæ.—According to M. B. aphthæ consist of an inflammation of the muciparous follicles of the mouth. These follicles are extremely numerous and invisible in their ordinary state, but when inflamed, they swell and appear on the internal surface of the lips and cheeks, on the pillars of the velum and the palatine arch, on the inferior surface and the lateral parts of the base of the tongue, under the form of small white points, sometimes exhibiting a coloured spot in their centre, slightly prominent, and often surrounded by a slight inflammatory circle. They gradually enlarge, and from their central aperture there soon issues a white matter, "which being squeezed by the epithelium," the ulceration of which soon commences, leaves the white puriform matter freely exuded over the parts. Aphthæ are apt to be confounded with muguet when they are very numerous and near each other, causing their borders to unite, and spreading the curdy matter which they secrete over considerable extent of surface. The predisposing causes are the same as those of muguet; such as bad nutrition, vitiated air, &c. It is a disease not confined to infants, as adults are affected with it, though it is most frequently met with among such as are teething.

Treatment.—When mild, wetting the mouth often with marsh-mallows decoction, barley-water, or milk and water, will prove sufficient; when more severe, M. B. recommends acidulated gargles; such as a mixture of barley-water and honey of roses, with a few drops of sulphuric acid. The ulcerated parts may sometimes be touched to advantage with a piece of alum, cautiously applied, and demulcent gargles used afterwards. Gargling with a weak solution of chloride of soda should never be neglected. When

the child is restless or in pain, a little syrup of poppies should be added to the gargles, in the proportion of one or two drachms to two ounces of mucilage or gum-water.

Ulcerous Stomatitis.—This is an ulcerous affection of the mouth, differing from aphthæ, which is confined to the follicles, the ulcers occupying indifferently every part of the buccal cavity. Two cases are given, (p. 180,) to show the true nature of this disease, but as it does not differ from the very prevalent ulcerous affection of the mouth in adults, so well known, we shall merely add, that M. B.'s treatment is the same as in aphthæ.

Gangrenous Stomatitis.—This may be the termination of any of the inflammatory affections of the mouth. When aphthæ become gangrenous, their edges shrink and assume a burned, torn, and flabby aspect; thus a brown eschar often forms in the centre, which soon detaches itself, leaving a granulated surface of a vermillion colour. In place of an eschar, the centre of the ulcer sometimes gives off a creamy substance of a brown colour and gangrenous odour. The surrounding parts tumefy, assume a violet aspect, become softer and are easily depressed. In the mean time, from the mouth of the child, always half open, there flows a ropy saliva. The face becomes pale, the patient remains drowsy, and sinks without having exhibited any febrile reaction or cerebral excitation. The pulse always remains extremely feeble, and the skin pallid and insensible. To these symptoms are often added vomiting, diarrhœa, and distension of the abdomen, and sometimes hiccup and frequent eructations.

Treatment.—A wash of gum-water, slightly acidulated. Should no alteration in the aspect of the ulcer ensue, sulphuric or muriatic acid must be used. After the eschar is detached, the surface of the ulcer should be touched with nitrate of silver.

Proper Gangrene of the Mouth, is that form of the disease which does not follow any well characterised inflammation, but appears to be brought about by some particular alteration of the parietes of the mouth. In treating diseases of the skin, M. B. took occasion to point out, that in young infants, the feet, hands, and labia pudendi, were subject to indolent swellings, which frequently terminate in gangrene. The same phenomenon occurs in the mouths of children, especially such as are born feeble, or are badly nourished. We have witnessed two cases of this disease of late, both of which proved fatal. In one case, a child at the orphan asylum of this city, was observed to be drooping and feverish for a day or two, when a small, hard tumour was noticed upon the right cheek, which gradually increased, accompanied with a good deal of tumefaction of that side of the face. In a few days a dark violet spot was discovered over the hard part, which was glossy and shining, having an oily appearance, and very hot to the touch. The pulse was slow and weak, and general prostration great. The gangrene extended gradually, involving the whole cheek, and the patient died on about the twentieth day from the attack. The second case was that of a boy, about twelve years of age, sick of fever. He had taken repeated small doses of calomel, and when I first saw him, salivation was established. The room in which he lay was small, and was warmed by a close stove, and the ventilation very imperfect. About the fourteenth day from the attack, a small dark coloured spot appeared in the centre of his chin, which was puffy, swollen, and glassy. In twenty-four hours it had extended to the size of a dollar, became very offensive, and discharged a

sanious matter. It continued to spread until it had destroyed nearly half the face, when death relieved the patient from his sufferings, his senses remaining perfect till the last.

The cases described by M. B. are very similar to the above, in which he notices very particularly the œdematous swelling of the cheek, the indurated spot in the centre of the engorgement, the muco-sanguinolent discharge, the eschar, and lastly, the extensive disorganization of the cheeks. This form of gangrene may be distinguished from malignant pustule, by the gangrenous inflammation commencing in the interior of the mouth, and thence spreading to the skin. M. B. conceives that this affection is owing to an indolent engorgement, the blood no longer circulating in the capillary vessels, the lymph and serum engorging and spreading through the cellular tissue, and the parts which the blood should nourish, becoming thereby disorganized from the effect of the pressure.

Treatment.—Before gangrene has commenced, and there is merely an engorgement, we should attempt to relieve this by aromatic or dry frictions; and if there should be a circumscribed, hard spot, we should use ammoniacal liniment, and the cheek is to be covered with compresses saturated with a weak solution of hydrochlorate of ammonia. If a slight erosion appears in the interior of the mouth, and on the exterior a violet ecchymosis, we should then cauterize the central part of the tumefaction, either with the water of antimony introduced to the bottom of a crucial incision made on the outside of the cheek, or what is still better, with the actual cautery: and this is to be resorted to at as early a period as possible, to prevent the destruction of the cheek. The mouth is to be washed with acidulated barley water. Emollient cataplasms are proper, to moderate the inflammation. The general treatment must be cordial and supporting.

Passing over Glossitis, diseases of first dentition, those of the salivary glands, and of the guttural portion of the digestive tube, and œsophagus, which are ably treated, we come to *Diseases of the Stomach.*

M. B. shows very conclusively that inflammation of the stomach may occur during the sojourn of the infant in the uterus, and manifested after birth by a pinched appearance of the face, painful cries, and the vomiting of brown matter. These signs, however, may be common to all other diseases of the digestive tube.

Of gastric diseases developed, our author treats of *Indigestion. Lesions of the Stomach, with or without disturbance of its functions; Gastritis,* (1, *Erythematic*, 2, *With altered secretion*, 3, *Follicular*, 4, *With disorganization of tissue.*) In the treatment of Gastritis, M. B. recommends to wean the child, give a sweetened decoction of marsh-mallows, and nourish the child by injections made with a decoction of rice or groats. If the affection is severe, leeches are to be applied to the epigastrium, and frictions over the same region with tartar emetic ointment. No stimulants or tonics must be employed.

The first disease of the *intestinal canal* treated of by M. B. is *Intestinal Indigestion.* We often see children labouring under this affection, affected with diarrhœa; they become pale, and sink into a state of marasmus, and on examination after death, no trace of inflammation is discovered. These children really perish from want of food; they die, it may be said, of hunger, the intestinal canal not digesting either the milk that is sucked, or that which is given to drink. The usual symptoms are progressive emaciation,

paleness of face, continual hunger, diarrhœa, consisting of white mucous matter, containing lumps of coagulated milk, which have passed unaltered. The child dies of marasmus, and the intestinal tube is found after death, without colour, often softened, sometimes inflamed, ulcerated, and disorganized to a greater or less extent. The most usual appearance, however, is a general discoloration, which is the first degree of a species of softening. This alteration of tissue, M. B. considers one of the effects of defective nutrition, which is owing either to the nature of the food, or the mode of suckling to which the infant is subjected. He states that all the children at the Hospice des Enfans Trouvés, who are confided to the care of the wet nurses, are pale, thin, and in a bad condition, and die from imperfect nutrition, with the pathological changes above noticed.

M. B. gives an account of the interesting remarks of M. Poyen, from the *Journal de Chimie Médicale*, &c. in relation to the composition of goats' and human milk, from which it appears that the latter differs from the former in its containing about half the quantity of caseum, and its marked alkaline quality. When a child appears feeble and pale, and does not digest the milk of its nurse, he advises to attempt feeding it with the spoon or bottle, to regulate the quantity and correct the quality, by diluting it with barley water. Children will often thrive upon this who reject the milk of their nurses, and who have wasted away from want of alimentation.

Invagination of the Intestines is of frequent occurrence in sucking infants, and, though it is often met with where no symptoms have occurred during life, yet in general its existence is indicated by well known signs. It is a difficult condition to remedy, yet M. B. recommends baths, abstinence from the breast, laxative enemata, gentle compression of the abdomen, and the administration of olive oil. M. B. believes that constipation, vomitings, and convulsions in infants, if remarkable for alternate emissions and exacerbations, and not preceded or accompanied by symptoms of enteritis, are generally indicative of a nervous affection of the digestive tube, and should be treated with antispasmodics, such as syrup of poppies; but these means are to be used with great caution, as nervous affections of the intestinal canal are much more rare than inflammations in young infants.

Gastro enteritis is a disease of common occurrence in sucking infants. The symptoms are vomiting of greater or less obstinacy, pain in the epigastric region, indicated by a painful expression of the face, and by cries, when pressure is made over the abdomen. It is often difficult to distinguish this affection from simple enteritis.

Enteritis in children may be either erythematic, with altered secretion, follicular, and attended with disorganization of tissue. As these run into each other, and during life are difficult to be distinguished, we must refer to the work for cases and details illustrative of each form of the disease. In 80 cases of inflammation of the intestines examined by M. B., there were 30 of entero-colitis, 36 of enteritis, and 14 of colitis. In the 30 cases of entero-colitis, there were 20 with diarrhœa of yellow or green matters. In all, there was distension of the abdomen, which was more or less painful on pressure. In 12 of these children, there was vomiting of yellow matters, but no gastritis. In all, there was an erythematic redness about the anus, of greater or less intensity, caused by the acridity of the alvine dejections. The tongue was very often red and dry; the skin very hot and arid; the pulse barely indicated fever, but, in some cases, it was slow and feeble. In the 36 cases where the small intestines alone

were affected, there were 20 instances of vomiting, either of drinks or intestinal matters; and in these 20 cases of vomiting, in all these instances, the inflammation was seated in the ileo-cœcal region, and at the valve in 15 instances; so that M. B. thinks it likely that the obstruction resulted from the tumefaction of this valve, thus producing an interruption in the course of the intestinal matters followed by vomiting. In every instance the abdomen was tumefied; in 25 cases, there was diarrhœa of yellow or green matters, like the meconium; the tongue was generally red; the skin hot; the pulse little disturbed, and a redness about the anus in all. These children were from one day to six months old. The proper signs then of enlerits or ileitis in children, M. B. considers to be rapid tympanitis of the abdomen, and diarrhœa accompanied with vomiting; while in colitis, we generally have diarrhœa alone without tympanitis. When to these we add rapid emaciation and an ashy aspect of the integuments, the nature of the disease can rarely be mistaken.

Treatment.—This must be antiphlogistic—one or two leeches to the anus at the commencement, and the use of mucilaginous and demulcent drinks; such as a sweetened decoction of marsh mallows, milk diluted with water, barley water, &c. If the diarrhœa be profuse, and the pain urgent, an enema of starch with from four to eight drops of laudanum should be administered. Opium, however, should be administered to infants with great caution, as they are more susceptible to its influence than adults .Cataplasms to the abdomen should never be omitted. Emollient baths are very useful, The hours of feeding, and the quantity of aliment, ought particularly to be regulated.

Spasms of the Intestines.—In the treatment of this affection, so apt to occur in infants, within the first six months, M. B. recommends leeches to the mastoid region or general bleeding from the arm or foot, under a conviction that it is owing to an irritation of the cerebro-spinal apparatus. Warm baths, assafœtida injections, stimulating frictions over the spinal axis, lancing the gums, if swollen from teething, gentle laxatives, soap suppositories, &c., fill up the catalogue of remedies for this affection. M. B. quotes, with approbation, from an article on this subject, in the *North Am. Med. and Surg. Jour.* for January, 1827, by Dr. Joseph Parrish of Philadelphia, and after treating of "White softening of the gastro-intestinal mucous membrane," he concludes a very elaborate chapter, by ably summing up of the principal symptoms of the diseases of the digestive canal. For his account of cholera infantum, he is chiefly indebted to our countryman Prof. Dewees, as it is an affection "not generally noticed in France." After reading the symptoms, however, of some of the forms of bowel affections above noticed, we cannot believe "that it is a disease peculiar to infants in the United States," but that it prevails extensively in Paris during the hot months, though called by a different name.

Chapter III treats of *Diseases of the Appendages of the Intestinal Canal*, commencing with those of the liver. "English physicians," remarks M. B., "attach the greatest importance to diseases of the liver in children, as they do also in adults. Most of the disorders of digestion are attributed by them to a derangement of the functions of this organ; they attribute many diseases to the qualities of the bile that the liver pours into the intestines. In order to obtain fixed data upon this subject, I have examined the liver in a number of infants with great care, and considered especially the physical qualities of the bile, and the symptoms which they

had presented during life, and I have never seen any thing in these lesions and symptoms which could explain the ideas of the English pathologists in reference to the influence which affections of the liver might exercise upon the health of the child."

Congestion of the Liver is easily caused by any impediment to the circulation of the blood. It is often found in children at birth, especially in cases of asphyxia, where the liver, as well as the large abdominal vessels, will always be found gorged with fluid, black blood. The treatment is the same as that of intestinal, thoracic engorgements.

M. B. thinks that *inflammation of the liver* is a very obscure affection, owing to its numerous alterations of colour and texture, which render it very difficult to know to what cause to refer these changes. As to the alterations in the qualities of the bile of fifty children, upon whom researches were made, in twelve of these, where the liver exhibited all the apparent characters of a state of health, the bile was discoloured and slightly viscid in two; abundant, without colour, and clear like serum in three; of a beautiful green, and in small quantity, in one; black and very abundant in two; small in quantity, and of a clear yellow, in two; and of a yellowish green, and very viscid, in two; showing that, however healthy the liver may appear, the colour and consistence of the bile are extremely variable.

In twenty-eight out of these fifty cases, the liver was much gorged with blood in twenty-eight children; in ten the bile was of a deep green and of the usual quantity; in eight it was of a very pale green; in two it was mixed with blood; in three in was yellow, thick, and concrete; in four in small quantity and of an ochrey colour; in one it was replaced by a white, ropy fluid, like mucus. From these facts it would appear, that sauguineous congestion of the liver does not produce the same change in the bilious secretions, even when the liver is found in the same pathological state. The colour of the liver, as well as its texture, was as variable as the appearance of the bile. The result of M. B.'s researches is, that the appearances of the liver and the bile are very variable, and that it is impossible to establish between the state of the bile still retained in the reservoirs, and the normal and pathological state of the liver, any connection that may lead to general conclusions. Our author believes that the yellow and green discharges in infants, are symptomatic of enteritis, and not of deranged biliary secretion, as is generally supposed; and in proof of this, he states, that in forty-eight children that died of enteritis, twenty had diarrhœa of very abundant yellow fæces, and twenty-six diarrhœa equally abundant, of very green fæces. In fifteen of these cases the liver was scarcely injected, and small in quantity; in four it was very clear; in three very thick and of a deep green; in the rest it presented nothing remarkable. In twenty-five the liver was gorged with blood, the bile presenting different appearances. M. B. criticizes the opinion of Dr. Dewees and others, who consider the green and yellow evacuations in children as an evidence of altered biliary secretion, and condemns the practice of giving calomel, as generally practised in this country, without considering that, in a majority of these cases, active enteritis is present. He more than intimates that the great mortality of children by cholera infantum in this country, is owing to the practice of giving emetics, purgatives, and stimulants, without regard to the pathological condition of the gastro-intestinal mucous membrane, and that it would be more philosophical to endeavour to ascertain in the first place whether there really is a preternatural efflux

of bile into the intestines in this disease. On this subject we beg to refer the reader to the able and satisfactory article of Dr. Stewart, the translator, in the Appendix. In concluding this article, the translator remarks with great justice, "The strictures of the author on the non-success of American practice and prophylactic treatment in cholera infantum are not more just than similar strictures would be if applied to any other disease that baffles the skill of all physicians; such, for instance, as phthisis in all countries, spasmodic cholera in India, America, or France. In many diseases there may be, and often is, a limited view of their nature, when studied only as they are manifested in one organ, without considering the connection it may have with others, and in some cases even the absolute dependence of one organ upon others for the continuance of its healthy functions. To the disease we have just been considering this remark applies with more than ordinary force; and the extended view of it, and the consequent treatment adopted in this country, is the result of a vast accumulation of experience, obtained where the prevalence of the disease is co-extensive with the boundaries of the land, and where its appearance is annually anticipated with the same certainty as that of the season which gives it existence. Those who have recorded this experience are men who have distinguished themselves in the fields of science, and who are unsurpassed in sagacity and in the attainment of the object of all intellectual culture when applied to medical science—a solid, philosophical judgment. It would be impossible, as it would indeed be unnecessary, to attempt to exhibit at length the professional character of some of our distinguished countrymen; but a reference to our numerous medical treatises may with confidence be made in proof of the industry, erudition, and genius displayed in the cultivation of the science of medical philosophy."

M. B. next treats of diseases of the *Urinary Organs*, which we must pass by, to come to the chapter on PERITONITIS. This affection is more common among children than is generally supposed, and even, according to M. B., may exist during the intra-uterine life. The symptoms peculiar to peritonitis in children, are, tension of the abdomen, which rises in a point towards the umbilicus; restlessness; pain, indicated by a pinched face and cries; vomiting; eructations; constipation; and, lastly, a general sinking and smallness of the pulse. It may be distinguished from pleurisy by the full sound of the thorax. Dyspnœa not only arises from an affection of the lungs, but also from a tympanitic state of the abdomen, and the laboured movement of the diaphragm. The pain is constant; whereas in spasm and colic, it is remittent. The progress of peritonitis is always unfavourable.

Treatment.—This should be antiphlogistic; one or two leeches should be applied to the abdomen, near the umbilicus, and the child placed in a warm marsh-mallows bath, and linseed poultices applied to the belly. From one to two grains of calomel should then be given, and a few spoonfuls of the syrup of succory, or an injection of castor oil. If the disease yields, the child should not be applied to the breast immediately, but nourished for some time with calves' or goats' milk, diluted with a decoction of oatmeal. The feet are to be kept warm, and the body covered with flannel next the skin.

Ascites.—This disease is generally the result of some chronic phleg-

masia in children, particularly of peritonitis. Children labouring under this affection are generally pale, thin and extremely feeble, the inferior extremities œdematous, and the digestive passages usually colourless or softened. It is more commonly met with after the first year, but is sometimes observed in many young infants; in a few cases it has been observed at birth.

The chapter on *Hernias* and *Prolapsus of the Rectum* contains nothing particularly new or interesting.

M. B. considers *Coryza* in infants to require particular attention, as the irritation is very apt to extend to the brain, producing chronic hydrocephalus. When drowsiness and prostration, and particularly convulsions, occur during the presence of coryza, we should regard them as signs of cerebral irritation and adopt our treatment accordingly. The treatment varies according to the age of the child; removal from the breast M. B. considers absolutely necessary; laxative drinks, such as a decoction of prunes; small doses of calomel; a blister to the neck or one of the arms; and if cerebral complication should arise, it must be met by appropriate means. To change the nature of the morbid action, calomel and sugar, or alum and sugar, may be blown into the nostrils.

Laryngitis in infants is always accompanied with an abundant secretion of mucosity, which is at first clear, but soon becomes thick and yellow. The respiration of the child is laboured, and the cry sensibly altered. This alteration consists more in its tone than in its form; both parts constituting the cry exist, but they are husky. When inflammation of the larynx is violent, the alteration in the cry is more evident; it is often then so faint as scarcely to be heard, whilst the reprise is, on the contrary, acute and predominant. This particular modification of the cry is worthy of particular notice, as it is a positive sign that inflammation exists about the upper portion of the air passages, while the complete absence of the reprise indicates a lesion in the bronchial ramifications or the pulmonary tissue.

Laryngitis, in children, rarely exists alone; it often follows coryza, and is apt to terminate in croup or pulmonitis. Its course is usually rapid, though, at first, the symptoms may be obscure.

When the opening into the larynx is very narrow, the least tumefaction resulting from inflammation, may produce suffocation, followed by spasm and distress, during the existence of which the physiognomy fully expresses the suffering of the patient. The face becomes purple, especially round the alæ of the nose and about the mouth, the nostrils dilate, the mouth remains wide open, and at each movement of inspiration, there occurs a kind of spasmodic contraction of all parts of the body, accompanied with a dilatation of the walls of the thorax. This assemblage of symptoms constitutes what is called *Angina Suffocatoria.* This affection may terminate in resolution at the end of a few days, pass into a chronic state, or soon end fatally from asphyxia. After this disease, the cry often remains husky from the altered state of the tissue from the inflammatory action.

Treatment.—Scant nutriment, leeches, poultices to neck, hot cataplasms to the feet, calomel followed by manna, and injections, are the remedies recommended by M. B. in the treatment of this affection. Should the disease become chronic, a blister or tartar emetic ointment should be applied to the neck; and the neck should, for some time after the disap-

pearance of the inflammation, be kept enveloped in swansdown, fine fur, or flannel.

Croup.—M. B. defines this to consist of an inflammation of the larynx and trachea, complicated with the rapid formation of a pellicular concretion, spread over the walls of the larynx, and propagated thence to the trachea and bronchiæ. He does not believe there is any thing specific in the nature of croup, but that the existence of the false membrane may be accounted for on principles already pointed out, connected with the peculiarly fibrinous character of the blood of children. He states that there exists but a degree between the thick, tenacious, filamentous mucosity, with which inflamed mucous membranes cover themselves, and the membranous exudation of croup; and that both present the same chemical elements. Thus he considers the puriform mucosity of catarrh, the false membrane of croup and the excretion of muguet, as but alterations of the same excretion, which vary only with respect to their form and the parts they occupy. Before this membrane appears, the mucous membrane is always much inflamed, red and gorged with blood; the subjacent tissue also participates in this injection, and when the inflamed membrane is at the same time the seat of sanguineous exhalation, this exhalation is seen to be accompanied or followed by pellicular concretions, from which it is to be inferred that croup is a catarrhal phlegmasia; but that the blood destined to the secretion of mucosity is, in the case under consideration, concentrated in greater abundance, or rendered plastic by inflammation, and imparts to the mucosity that portion of its composition which concretes the quickest, that is, the fibrin; whence arise the striæ, pellicles, and white patches with which the mucous membranes affected with muguet or croup are covered.

Treatment.—M. B.'s treatment of this disease does not vary materially from that usually adopted in this country, viz. general and local bleeding, calomel, topical applications, revulsives, &c. He says nothing of emetics, which we consider very important therapeutic agents in this disease.

M. B. maintains that children are sometimes born with *pneumonia* and *pleurisy*, as well as pulmonary congestion, which are often mistaken for debility, and erroneously treated. Children often perish soon after birth, from the fact that the air does not penetrate the lungs in sufficient quantity to prolong life. We have seen several such cases, where the lungs *sunk in water.* The symptoms of *pulmonary engorgement* in new born children are obscure; but in general we find the respirations laboured, the thoracic parietes not perfectly developed, the face purple, the general colour indicating sanguineous plethora in all the organs, the cry is obscure, painful and short, and percussion yields a dull sound. This affection often terminates in pulmonary apoplexy, when the symptoms are the same as above, only more aggravated. The *treatment* of these diseases should be revulsive, viz. bleeding, warm bath, &c.

Pneumonia.—This disease in infants is generally the result of a stagnation of blood in the lungs. The blood, in such cases, may be regarded as a foreign body, and concurs in producing an alteration in the pulmonary tissue, with which it combines, and is identified with it, causing hepatization of the lungs. In proof of this, we may state that pneumonia almost always follows engorgement of the lungs, and as congestion is more frequent in the right than the left lung, it is that lung which is most frequently affected. The cause may be either mechanical or physical. The disease

is rarely complicated with pleurisy, as is generally the case in adults. Pneumonia may terminate either in hepatization, suppuration, softening, or disorganization.

The symptoms of pneumonia and pluro-pneumonia in children, are, laborious; short and painful respiration; suppression of the respiratory murmur on auscultation; dull sound on percussion; incomplete and smothered cry; cough may exist, or be absent; no expectoration as in adults; peculiar expression of the face, consisting in a drawing of the alæ of the nose outward, a blue circle round the lower part of the nose and commissure of the mouth, which is the result of a disturbance in the general or capillary circulation. The face is often œdematous towards the close of the disease. Febrile reaction rarely exists in very young infants, but appears in proportion as the child advances in age. The pulse is often obscure and small, the skin cold and livid, and the limbs œdematous. Marasmus ensues, if the affection becomes chronic.

Treatment.—Remove all tight clothing; apply leeches to the axillæ of the side affected, the number being proportioned to the strength of the child: and give but little nourishment. If the inflammation persist after sanguineous evacuations, recourse must be had to dry cupping on the thorax, or to blistering the chest or arms; revulsives to the extremities, or intestinal canal. If the pain be excessive, producing continual crying and restlessness, a sufficient quantity of syrup of poppies should be given to procure ease. But little benefit is derived from the use of syrup of ipecac, squills, and other expectorants usually given in this disease, as the bronchiæ do not generally participate in the inflammation, and young children cannot expectorate. In a more advanced age they may be given to advantage. While convalescent, very great care is necessary in protecting the child against cold, as there is great danger of relapse from the great sensibility of the respiratory organs. We should remember, also, that this is a period of life at which the different organs are susceptible in their progress of developement, of acquiring certain modifications which dispose them to idiosyncracies, the influence of which may remain during life.

The author's remarks on *Bronchitis, Pleurisy, and Œdema of the Lungs*, are highly interesting and important, especially the cases which he gives in illustration of the pathology and treatment.

Hooping Cough.—After presenting the result of the researches respecting hooping cough, which have been made by other writers, M. Billard proceeds to point out its causes and nature. He concludes that it is a bronchial catarrh, attended with a peculiar, suffocating, convulsive catarrh, occurring in paroxysms. This indeed gives the disease its specific character, though it must be observed that in adults, as well as children, affections of the trachea, larynx and bronchiæ, often give rise to a sudden, local, or general spasmodic irritation, characterized by spasms of the affected organ, or by general convulsions. Thus tonsillitis, simple angina, croup, foreign bodies in the trachea, or tumours pressing on the trachea, produce a cough more or less suffocating, remarkable for its remissions, and which in many cases has a striking resemblance to that of hooping cough. M. B. explains the mucous vomitings by the relation existing between the mucous membrane of the bronchiæ and that of the stomach. He has never discovered any lesion in the pneumo-gastric nerve, as maintained by Hufeland and Breschet. Autopsic examinations reveal nothing more than bronchial catarrh in its various stages, accompanied with considerable mucosity in the

bronchiæ, which are sometimes sensibly dilated, and exhibit a vivid red colour. The lymphatic gangliæ in the vicinity of the bronchiæ are often found inflamed, and sometimes small vesicles are observed, filled with a creamy, inodorous pus. The disease may be complicated with pneumonia, pleurisy, pulmonary tubercles, chronic enteritis, mesenteritis, meningitis, and hydrocephalus. The symptoms are detailed at great length and much particularity, but they are too well known to need description here.

Treatment.—The indications are to combat the inflammation of the bronchiæ, and moderate or remove the nervous complication. In the beginning of the disease sanguineous evacuations are necessary, both general and local, accompanied with demulcent drinks and revulsives to the intestinal tube; in a word, it must be treated by a purely antiphlogistic method rigorously pursued during its inflammatory stage; as bronchial irritations quickly produce in young infants pulmonary or cerebral congestions, a few leeches to the neck or lateral parts of the thorax, will be proper, if the slightest symptoms of irritation are perceived in these organs. Antimony, squills, ipecac. &c., should be given rather in expectorant than emetic doses.

Mr. B. repudiates the idea that hooping-cough has a certain course to run, and that it is, therefore, useless to attempt to cut it short. In this respect he compares it to intermittent fever, and says it is equally proper to attempt to arrest the one as the other. After the inflammatory symptoms are removed, it will be proper to administer narcotic and antispasmodic remedies, such as the syrup of poppies, assafœtida, hyoscyamus, belladonna, cicuta, &c. To these may be added counter-irritants to the skin, e. g., blisters between the shoulders, ammoniated and tartar-emetic frictions, &c. During convalescence the nourishment should be gradually increased, and the patient removed to the country, if possible. In concluding his observations on diseases of the respiratory organs, M. B. strongly recommends physicians to employ the stethoscope and auscultation in investigating thoracic diseases.

The next chapter treats of diseases of the *Circulatory Apparatus*, occupying some twenty pages, which our limits oblige us very reluctantly to pass over.

The diseases of the *Cerebro-spinal Apparatus* are considered at considerable length and great ability; after taking a rapid view of the development of the brain, and spinal marrow, Mr. B. proceeds to describe their congenital diseases, such as *spina-bifida*, *acephalia*, *anencephalia*, and *hydrocephalus*.

Congestions of the cerebro-spinal apparatus are common at birth. This arises from the abundance of vessels, the slowness of the circulation, and the influence of respiration on the spinal and cerebral circulation. M. B. considers injection of the meninges, of the medulla and of the brain, so common in infants at birth, that it should rather be considered a natural than a pathological state. It often gives rise to no particular, appreciable symptoms; but, if continued too long, it will produce an exudation on the surface of the meninges, and the blood which is the product of this exhalation, is ordinarily coagulated in a greater or less quantity, compressing the brain and spinal marrow, and causing an apoplectic stupor to follow. This effusion extends to the cerebral mass, is always met with in infants who have died of apoplexy, forming what M. Serres calls *meningeal apoplexy*. Injection of the cerebral pulp is also equally common.

Non-inflammatory softening of the brain is a lesion peculiar to the

brain of new-born children, and is the result of congestion of this organ. This softening may exist in one or both lobes; often the whole of the cerebral mass is so destroyed that nothing more is found on opening the cranium but a soft, flocculent, black mass, mixed with a great number of clots of blood, and pulpy flakes. The meninges are not involved in this disorganization, and, notwithstanding the destruction of the encephalon, children will live on some days, not possessing simply, as is vulgarly thought, a mere breath of life, but actually respiring, crying and sucking; this occurs when the disorganization is arrested at the medulla oblongata, which remains unaffected, and which, with the medulla spinalis, controls the phenomena of life. The symptoms of this affection, are diminished vital activity, flaccid and immovable limbs, very weak pulsations of the heart, cold extremities, and difficult deglutition. The result is certainly, and generally speedily fatal. *Treatment*, antiphlogistic.

Spinal Meningitis.—This affection is more common than inflammation of the medulla, giving rise to convulsions or spasms of the limbs, and sometimes of the face, particularly if the inflammation be situated near the base of the brain. In 30 cases of convulsions, in new-born children, M. B. found well-marked inflammation of the meninges of the spine in 20; and in these 20, there were six with inflammation of the meninges of the brain and of the spinal marrow; so that it is probable that convulsions of infants are almost always the result of an irritation or inflammation of the rachidian meninges. Cases are given to illustrate the symptoms and pathological appearances, for which we must refer our readers to the work itself.

Cerebral Meningitis.—The symptoms of arachnitis of the brain differ but little from those of inflammation of the rachidian meninges. It is much more common at the base than at the upper part of this organ; and the only alteration which is found, in children that die from this phlegmasia, often consists of nothing more than a pellicular exudation, more or less thick, applied in irregular layers on the surface of the arachnoid membrane, corresponding with the base of the cranium. These are almost always found beneath the tunica arachnoid and pia mater. One of the most immediate effects of cerebral meningitis is the effusion of serosity in the ventricles. This effusion, designated by authors under the name of hydrocephalus acutus, often takes place before the formation of pellicular concretions, and, even when the inflammation exists, still under the form of a simple injection. This effusion of serosity in the ventricles occurs very quickly in infants. The slightest cerebral or meningeal irritation will effect it, and as the hidden presence of this water in the ventricles produces, either by its contact or by the pressure and distension which it creates, a greater degree of pain and a new train of symptoms, meningitis, or encephalitis, complicated with hydrocephalus, then assumes its peculiar character.

To the restlessness and convulsions, which appear at the commencement of this disease, follows, suddenly, the greatest excitement; the child by its acute cries expresses the violence of its pain, which for a moment ceases, to be renewed with the greatest intensity. This remission in the symptoms is very remarkable; it sometimes observes a periodical return, and it is this, without doubt, that has induced some authors to describe the hydrocephalic fever as intermittent. But this remission is common to all excessively painful diseases, and especially to such as produce some lesions of the nervous system; this is a fact worthy of observation, and which

deserves consideration in the history of every periodical irritation. When the effusion is considerable, the convulsions are less; the limbs, which were very remarkable for their spasmodic rigidity, become completely flexible; the face assumes a peculiar expression, arising from the permanent dilatation of the pupils, and the fixed dull stare of the child, the pulse, which was remarkable for its frequency and quickness, becomes very slow, and is scarcely perceptible. Yet the child will sometimes come out of this state of prostration, and a new state of excitement shows itself; the limbs are convulsed anew, the globe of the eye becomes the seat of spasmodic movements; but this exacerbation is of short duration, and is soon replaced by a state of coma, which usually continues until death. Children that are old enough, complain of excruciating pain in the head, as if the bones were pried apart. The secondary symptoms are vomiting, difficult respiration, angina, alteration of the tone of the cry, and obstinate constipation. When the disease becomes chronic the patient falls into a state of stupor and idiocy which continues during life.

The anatomical lesions are numerous and variable. In some cases nothing is found but a simple vascular injection of the meninges, together with more or less clear serosity in the ventricles. The effusion varies with respect to its quantity and its seat. Its seat is usually in the cerebral ventricles, or in the great arachnoid cavity; it has, however, often been found infiltrated under the pia mater, or between this membrane and the tunica arachnoidea. Its colour varies from clear to a turbid yellow; it is sometimes mixed with albuminous flakes, sometimes of a gelatinous form, between the convolutions of the brain, and is often sanguinolent at the time of birth. There are other appearances often met with, of less importance, but necessary to be described in presenting a complete history of the disease.

Treatment.—This should be prompt, and decisively antiphlogistic, viz: general and local bleeding, calomel, blisters, and the other means usually recommended; and which, in no country, are more successfully or more intelligently employed than in this.

Inflammation of the Spinal Marrow and Brain.—This is less frequent than inflammation of their membranes. Encephalitis is a very difficult disease to detect in young infants. In adults, or children sufficiently advanced, the symptoms of inflammation of the cerebral mass are made known by aberrations of the intellectual functions, whilst that of meningitis shows itself by convulsions, with or without delirium. In young infants, however, it is found that they often perish from complete disorganization of the cerebral mass, without exhibiting any symptoms of this lesion during life; while, as we have seen, inflammation of the cerebro-spinal membranes causes convulsions of the face and limbs, tetanic contractions or pains, cries and restlessness, &c.

Convulsions.—M. B. considers convulsions, as already stated, to be caused by cerebral or spinal meningitis. There are many cases of this kind where, perhaps, it may not be possible to discover marks of inflammation after death, but this arises from the difficulty of distinguishing passive congestion from phlegmasia; besides, irritation of the tissue of an organ may arise before the inflammation can manifest itself, at least to a sufficient degree to be evident to our senses. The author next treats of diseases of the organs of locomotion; of generation; of the lymphatic system; of the eyes; jaundice; of accidental tissues in infants; and of

alteration of the blood; and concludes his work with an elaborate and highly original Medico-Legal Dissertation on VIABILITY, *considered with reference to the pathology of new-born children.*

We have thus given a very brief sketch and analysis of the contents of M. Billard's work, omitting the cases and autopsic examinations. The reader, however, will be able, from the specimens we have offered him, to form a tolerably correct idea of the nature of the work; filling as it most ably does a hitherto vacant niche in medical science. For minute and philosophical research, and clear but cautious reasoning, it may almost serve as a model, and what it lacks in therapeutic detail is supplied by the experienced translator in the Appendix. For correctness and neatness of style, the translation will not suffer, by comparison with the best in the English language; and the manner in which the book "is got up," is creditable to the enterprising publishers. The value of the work is also enhanced by a very able contribution to legal medicine, by the distinguished medical jurist, Professor Francis, of New York. C. A. L.

ART. XIV.—*Anatomical, Pathological and Therapeutic Researches on the Yellow Fever of Gibraltar of* 1828, by P. CH. A. LOUIS, Physician to the Hotel Dieu; President for Life of the Society for Medical Observation of Paris; Member of the Royal Academy of Medicine of Paris. Honorary Member of the Massachusetts Medical Society, &c. &c. &c. From Observations taken by himself and M. TROUSSEAU, as Members of the French Commission at Gibraltar. Translated from the manuscript by G. C. SHATTUCK, JR., M. D., Member of the Society for Medical Observation at Paris: Fellow of the Massachusetts Medical Society. Boston: Charles C. Little and James Brown, 8vo, pp. 374.

THE history of yellow fever, notwithstanding the numerous treatises on the subject, as well as the descriptions which have been published of particular epidemics, is still involved in great obscurity. It is probable, indeed, that this appellation has been bestowed on diseases entirely distinct, though resembling one another in some of their most striking features. In particular it would seem that the bilious remittent of warm climates has often been confounded with yellow fever properly so called. For, that these two disorders are quite distinct, can hardly be doubted, notwithstanding all the confusion which exists on the subject, when we consider the striking differences to be found in their general history, especially as regards the conditions which give rise to them. This confusion, as well as the discordant views which have been at various times entertained relative to the nature and distinctive characters of yellow fever, are mainly owing to the want of an accurate examination and description of the post-mortem appearances considered in connection with the symptoms, and a comparison of both of these with what is found in other diseases. The first step towards supplying this desideratum has been taken by M. Louis, who has now given to the public, an account of his researches on the yellow fever of Gibraltar of 1828. His results are founded exclusively upon his observations in this epidemic, and cannot, of course, be affirmed to be universally applicable, unless confirmed by a similar course of observations in

other epidemics. But whether future investigations shall show that the conclusions of M. Louis are applicable or not to yellow fever in general, they possess great intrinsic value, and throw much light upon a number of interesting questions. Before proceeding further it may be well enough to remark, that the identity of the yellow fever epidemics of Spain and the West Indies has been questioned. The perfect identity of the disease, however, has been admitted, according to Dr. Gilchrist, to have been established at Gibraltar, in 1828, and if further proof of the fact is wanting, a careful perusal of the history of the disease, contained in the work before us is sufficient to produce conviction.

We have no very distinct account of the occurrence of yellow fever previous to the last century, and, indeed, no traces even of its existence anterior to the period of the discovery of America are to be found, unless we are willing to admit as such, the scattered notices in the writings of Hippocrates of violent fevers, accompanied by yellowness of the skin, and sometimes even by the vomiting of a black fluid. It is to be recollected, however, that these symptoms are met with in remittent fever, which exists now, as formerly, in Greece, Asia Minor, and the islands of the Archipelago; places, however, which are entirely exempt from the ravages of yellow fever. Without asserting positively, then, that the disease did not exist, it is certainly true that this existence cannot be traced beyond the period mentioned. It was long after this, indeed, that it was distinctly described; and where the disease first showed itself, cannot be known. No country seemed disposed to acknowledge it as indigenous, and every where endeavours were made to trace its origin to foreign importation. In point of fact, however, it is found to prevail principally in the West Indies and the neighbouring coast of America. Elsewhere its ravages have been limited to some of the northern Atlantic cities, the coasts of Spain, Lisbon, Leghorn, &c., and a few points in Africa.

The origin and mode of propagation of the disease are, for reasons to be presently mentioned, not inquired into in the work before us. It is exclusively devoted to the history of the Gibraltar epidemic of 1828, which commenced in the middle of August, and terminated the twenty-fifth of the following December, after a violent hurricane. To investigate its origin and mode of propagation, a commission was appointed by the French government, composed of Messrs. Louis, Chervin and Trousseau; who arrived at Gibraltar on the 23d of November, and commenced their labours immediately. "The autopsies," says our author, "were nearly all made in the presence of the three physicians, and M. Trousseau and myself held, alternately, the pen and the scalpel." They were assisted in noting the symptoms by several of their professional brethren, amongst whom Messrs. Fraser, Gilchrist, Amiel and Smith are particularly mentioned. These gentlemen also afforded them every opportunity for making the autopsies, and were themselves present. These observations, not required of the commission by government, but undertaken with a view to elucidate the pathology of the disease, were made in common by M. Louis and Trousseau. The subsequent study and analysis of these facts devolved upon M. Louis; on the other hand, the analysis of the documents collected by the commission, relative to its origin and mode of propagation, was undertaken by M. Trousseau, who has been prevented by circumstances from completing his undertaking, so that the subject of contagion and infection is not treated of in the present work, which has

been nine years completed, though now, for the first time, given to the public, and in an English translation. For this we are indebted to Dr. Shattuck, of Boston, in whose hands the original manuscript was placed by M. Louis, for that purpose.

After presenting to the reader the histories of a few cases, in order to afford him a good general idea of the disease, our author proceeds in the second part of his work, to examine the description of the post mortem appearances, as contained in twenty-three autopsies, and to compare them with those of other acute diseases, so as to arrive at a knowledge of its anatomical characters. The greater part of the subjects examined were soldiers in the vigor of life, well formed, and some of them athletic. The skin was yellow in all except three; but, as it did not exist in every case, we cannot, says M. Louis, regard it as essential. Exhalation of blood in the subcutaneous cellular tissue and superficial muscles was found in only one case. In the slight lesions found in the brain and its membranes, there was nothing peculiar to yellow fever, the same having been observed in persons who have died of the most common acute diseases. These lesions were an occasional injection of the pia mater, red or lilac colour of the cortical substance in some, frequent but slight subarachnoid infiltration, &c.; whilst, on the other hand, the medullary substance had almost constantly its natural aspect. In the spinal marrow likewise nothing peculiar was found.

Respiratory Apparatus.—The mucous membrane of the air passages, if we except a livid colour occasionally, was remarkably healthy, more so indeed than in those who die of the acute febrile diseases of Paris. Here our author makes the following observation in the form of a query: "But what disease of the kind is accompanied by as slight febrile symptoms as the yellow fever?" To understand the bearing of this remark, we must recollect that it is a favourite point of doctrine with M. Louis that many of the *secondary* lesions in acute diseases are mainly owing to the severity of the febrile reaction.

The most remarkable lesions found in the lungs were black spots of from two to five lines in diameter, or masses of the same colour more or less impermeable to the air. These masses were found in six cases, they had not the granulated aspect of the hepatized lung, presented but slight traces of organization, could usually be easily broken down, and, in some cases, yielded by pressure the blood of which they were almost entirely composed. This lesion corresponds in the main with the pulmonary apoplexy of Laennec, and, although met with in the most common acute diseases of Paris, is much less frequent there than amongst the victims of the yellow fever of Gibraltar.

Its frequency is in accordance with the general disposition to hæmorrhage in this disease, and would seem in this point of view to be characteristic, although scarcely alluded to by previous observers. Gilchrist indeed says, in reference to this very epidemic, that, "the attention of the medical officers of the garrison was directed, by some of the members of the French medical commission, to those dark, well defined, circular patches in the lungs, having very much the colour and consistence of the spleen, which have been noticed in other diseases, and the appearance of which was perhaps merely adventitious on the occasion in question." The conclusion of the English pathologist affords us a striking example of the fallacies to which imperfect observations and comparisons may lead. The

lesion did not strike him as remarkable, because found in other diseases; and, hence its frequency readily escaped him, for want of employing the thorough method of investigation adopted by M. Louis, viz: the careful examination of *all* the organs in *every* case, and subsequently a *strict* comparison of their condition with what is found in other diseases. In this way the importance of the lesion above mentioned was readily established, an importance, by the way, let it be remarked, dependent upon its *frequency*.

Hepatization of the lung was found in only one case:

"Thus," M. Louis observes in conclusion, "as the exhalation of blood in the pulmonary tissue was frequent, the inflammation of that tissue was rare in subjects who had died of yellow fever; the reverse of what we observe in the acute diseases of Paris, where the partial inflammation of the lungs is as common as the exhalation of blood in their parenchyma is rare." p. 72.

The pleuræ were found remarkably free from recent lesions, the pericardium healthy or nearly so, the heart flabby in seven subjects, and its cohesion diminished at least as many times. The aorta contained a greater or less quantity of clotted or liquid blood in all the subjects; and in six its internal surface was of a rose or red colour, a circumstance attributed to imbibition.

Digestive Apparatus.—In some cases the pharynx and tonsils were found more or less red, and the latter enlarged, without other alteration except in one or two cases. The mucous membrane of the œsophagus was natural as regards consistence and thickness in all; blackish, of various shades of brown or red in nine cases. The black colour occurred only where the epidermis was destroyed in whole or in part, and is attributed by M. Louis to contact with the black matter ejected from the stomach either before or after death. *Ulcerations* were not found in a single instance. The epidermis had disappeared entirely or in part in fifteen cases in which the œsophagus was described, and was perfect in five only. M. Louis observes that "this destruction of the œsophagus being found in many subjects who have died of other acute diseases, is not peculiar to those carried off by yellow fever."

Though not strictly speaking peculiar, it would nevertheless seem to be much more frequent in this than in most other acute diseases, having been found in about three-fourths of the cases. In his work on typhoid fever M. Louis does not mention it as having occurred in that or any other of the acute diseases with which he compares it.

Stomach.—In three-fourths of the cases the stomach contained a clear or dark-red coloured liquid, or else a blackish or perfectly black fluid, in different quantities. In the others, the contents were some flocculent mucus, a yellowish matter, &c. The red or black matter varied very much in quantity, and the deeper the colour, the more abundant it was.

"This black matter was not mixed with clots of blood in any case; and we found them in the stomach once only in a subject in which this organ contained a red liquid. Nevertheless, we can hardly doubt that this black matter, when homogeneous, thick, and as it were, pultaceous, was at least in part composed of blood; the vessel in which it was kept, and the bodies plunged in it, being stained red. But what was the mechanism of its formation? We find no vessel ruptured in the whole length of the alimentary canal, so that we must consider it a product of the exhalation of the gastric mucous membrane, although there was no especial lesion of this membrane to explain it." p. 81.

M. Louis then gives the histories of two cases, in which black matter was found in the stomach, whilst the mucous membrane of the latter was perfectly healthy, or nearly so. It would seem, then, that the presence of this black matter cannot be attributed to any appreciable lesion of the mucous membrane; and to explain it, our author thinks we must admit the existence "of a specific cause, probably the same with that of the yellow fever itself." If by this is meant an altered condition of the exhaling surface generally, or some of its elements, peculiar to yellow fever, but as yet inappreciable in its characters, the conclusion may be correct; it would be much stronger, however, could it be shown that a black matter, presenting similar characters, is never found in the stomachs of persons who die of other diseases. Dr. Physick, we believe, first clearly established the fact, that black vomit in yellow fever was a product of the gastric mucous membrane; but he went farther, and connected it with the *inflamed* state of that membrane as its cause. The secretion of the black vomit, he regards as one of the modes in which violent inflammation of the stomach has a disposition to terminate. The same view is taken by Dr. Jackson, in his account of the fever which prevailed in this city in the year 1820. How far the secretion of black vomit may serve to allay the inflammation, when the latter is present at the time, it is impossible to say, from the facts at present before the public. It cannot, however, with any propriety be regarded as a mere product of inflammation, since it is not found in ordinary gastritis, and in yellow fever co-exists, at least, at the period of fatal termination, with an apparently healthy condition of the mucous membrane.

The mucous membrane of the stomach presented a natural aspect, save only slight alteration of colour, in five cases. In the others were found thickening, softening, a red or rose colour, &c. in various proportions. In fifteen of these, also, or in about two-thirds of the whole number of cases, was found a mamelonated appearance, and usually to a remarkable degree. This mamelonated appearance was uniformly accompanied by a change of colour, which was mostly red or orange, and also by thickening or softening, or both; and hence must be regarded, says M. Louis, as the product of inflammation. This mamelonation is remarkable in this disease from its frequent occurrence, and for this reason is a more important feature here than in other diseases.

"Since all the lesions," says M. Louis, "which we have just passed in review are found in different proportions in subjects who die of other acute diseases, it follows, as I have already shown, that the cause of the formation of the *black vomit* must be sought elsewhere; perhaps, in the blood, and perhaps it is the same with that of the disease." p. 98.

After mentioning the healthy condition of the gastric mucous membrane five cases, he proceeds:

"And as it was not altered in all the cases, as its lesion is not inseparable from the disease, it follows that the yellow fever of Gibraltar of 1828, is not a gastritis, that the different lesions of the gastric mucous membrane are secondary or accessory, and that in cases where they were found, they were probably developed at a certain period after the commencement of the disease. And here, too, we may again remark, that the inflammation of the mucous membrane of the stomach in the cases where it was found, was never intense, since this membrane was never very red, nor very much softened. All that we can conclude from these facts relative to the gastritis is, that the yellow fever of Gibraltar of 1828, had a particular influence in its development, since it was more frequent, and

came on nearer the commencement of the principal disease, with which, in some cases, it would appear to be confounded, than in any other acute affection." p. 99.

These remarks seem to us conclusive in reference to yellow fever not being a gastritis, but still it may be objected by some, that this gastritis might have existed in the early stage of the disease, and subsequently disappeared, so as to leave no traces after death. This supposition, however probable it might have seemed at a period when the pathology of the mucous membranes was less understood, must now be regarded as not only gratuitous, but improbable. Without stopping to consider the improbability of the mucous membrane being restored, from a thickened, softened, mamelonated condition, such as was found in the great majority of the cases, to its natural condition in the course of twenty-four or forty-eight hours, we would merely observe, that to sustain the supposition above alluded to, it must be shown, that in every case, unaccompanied by serious and permanent cerebral disorder, where the stomach is found healthy or nearly so after death, unequivocal symptoms of gastritis exist during life. By a reference to the five cases before us, in which the stomach was healthy, we find that in three, either no note at all was taken of the symptoms, or a very imperfect one; and that of the remaining two, one had not vomited at any time, the abdomen not being painful on pressure when this point was noted, and the other "did not vomit," and "was not anxious." In one, the disease proved fatal about the commencement of the fourth day; in the other, probably about the sixth; and in the latter, at least, says M. Louis, the absence of vomiting could not be attributed to the delirium, which was momentary. It is worthy of remark, too, that in one of these cases there was no black matter in the stomach, and in the other scarcely any. Thus we see that there is no evidence of the existence of gastritis during life in any one of these cases, and so far as regards the two last, there is strong presumptive evidence, that it was not present at any time. The objection which I have been endeavouring to obviate, is not alluded to by M. Louis, probably because he regarded it as completely untenable, and carrying with it its own refutation; nevertheless, the objection might have weight with some, who, if not satisfied entirely of the justness of the preceding observations, must at least admit, that in the present state of our knowledge on the subject, the contrary opinion is an assumption devoid of positive proof.

Small Intestine.—Its mucous membrane was either healthy or presented only such slight alterations as are found in different acute diseases. The only remarkable circumstance was the presence in its cavity throughout the whole or a part of its extent of a red or black matter in the great majority of cases, and of blood recognisable by all its external characters in one case.

"The presence of the black matter in the small intestine in so great a number of subjects, forms an anatomical character, to be sure a secondary one, of the yellow fever of Gibraltar, and distinguishes it from other acute diseases, in the course of which we observe nothing of this kind, or, at any rate, not oftener than twice in a thousand cases; and the fluid found in these is by no means identical with that of the yellow fever."—p. 107.

The patches of Peyer were natural in every case except one, where some of them near the cœcum were slightly tumified, and hence M. Louis concludes that yellow fever is not a typhoid disease. He further observes:

"And if any one should pretend that the rapid termination of the disease was the reason why no alteration of Peyer's glands was observed, in order to maintain the identity of the two maladies, he would be obliged to explain how other severe lesions were developed so rapidly. Why of two similar diseases, is one rapidly fatal, the other often so, not till after the lapse of a considerable time; why do we observe, in individuals dying of yellow fever, lesions which are not found in those dying of typhoid fever? We may add to this, that very marked lesions of Peyer's patches are found in individuals who die the sixth and seventh days of the disease, whilst nothing of this sort exists in those who die of yellow fever, the same length of time having elapsed since its commencement."—p. 110.

Large Intestine.—Here, as in the small intestine, the most remarkable circumstance was the presence of a black or brown matter, the consistence of which varied in different cases, in some subjects being as firm as common fæcal matter. Wherever this was found, black or brown matter was also found in the stomach or small intestine, or both, except in one instance. M. Louis thinks that the stomach is the source of this matter in most cases, but that occasionally it is the product of the intestines themselves.

Liver.—Its size was natural in every case except two, where it seemed slightly enlarged. In some cases its firmness or cohesion was somewhat diminished or increased, but the most remarkable alteration was one of colour, which occurred in *every case*, and with three exceptions throughout the whole extent of the organ.

"This alteration consisted in a discoloration, the liver being sometimes of the colour of fresh butter, sometimes of a straw colour, sometimes of the colour of coffee and milk, sometimes of a yellowish gum colour (22), or a mustard colour (Obs. 16, 19), or, finally, sometimes an orange or pistachio colour."—pp. 117, 118.

Combined with this discoloration of the liver, was a more or less marked paleness of the blood, which was also diminished in quantity. "So that wherever this appearance of the liver was well marked, the sections of it were dry, and of an arid appearance in the left lobe." The appearance here presented was very different from that of the greasy transformation of the liver, since it was not in any instance accompanied by softening. In the three cases in which the discoloration of the liver was not universal, the right lobe presented its natural colour throughout, or in its obtuse edge only.

"This paleness, this anæmic state of the liver, is the more remarkable, as no other viscus was found in the same condition, and many of them, as the lungs and stomach, contained a greater quantity of blood than usual. Nor can we regard this alteration of the liver as the product of inflammation. In almost all the cases, the organ preserved its usual size, its firmness was as great and it contained less blood than in its natural state. These characters are the reverse of those of inflammation, of acute inflammation especially, such as we must suppose here.

"In the present state of science, it seems to me impossible to determine the nature of this alteration. Nor is the cause of it less difficult to be ascertained. We cannot exactly attribute it to hemorrhage of the intestinal canal, as this hemorrhage did not take place in all the cases where we found the lesion of the liver, nor, for the same reason, to a derivation produced by the inflammation of the mucous membrane of the stomach or duodenum. Nor do we find a similar lesion of the liver at the termination of those acute diseases where this mucous membrane has been inflamed. We should recollect, also, that the first symptoms of the inflammation of the gastric and duodenal mucous membrane showed

themselves sometime after the attack of the fever, whilst the alteration of the liver was most marked in a case terminated by death three days and some hours after its commencement. From this fact, we must place the commencement of the lesion either at the same time with, or soon after, the commencement of the disease itself.

"But the most remarkable fact is, that the liver is the only organ constantly and more or less uniformly altered in the subjects who have died of the yellow fever of Gibraltar, and whom we have opened. Nor is this alteration found in subjects dying of other diseases, so that we must necessarily consider it the anatomical character of the yellow fever. This character is so much the more worthy of our attention, since in the cases where no black matter was found in the stomach and intestines, there was no other means of distinguishing the bodies from those of individuals who have died of other acute diseases."—pp. 119, 120.

M. Louis then goes on to give the history of a case of typhoid fever, which had been handed to the commissioners as one of yellow fever, but where the symptoms and course of the disease differed very materially from those of the latter affection, and where the liver was found natural, several of Peyer's glands ulcerated, and the spleen of four times its natural size. He reports another similar case, and afterwards observes:

"Thus, this fact and the preceding one show, as I have already said, that I was not wrong in the importance which I have attached to the alteration of the liver, since, in a climate different from that of Paris, this alteration did not take place in a disease which more than one physician, though without doubt erroneously, has believed to be more or less identical with the yellow fever.

"Two other consequences flow naturally from the twelfth and thirteenth observations, namely, that considerable differences in climate are not sufficient to alter, at least sensibly, the anatomical characters of diseases; and, secondly, that all diseases are not alike when a fatal epidemic is raging."—p. 139.

We have now placed before our readers a pretty full account of the peculiar alteration of the liver found in the yellow fever of Gibraltar, and also of our author's views respecting it, and chiefly in his own words, or rather those of the translator. Every impartial reader must, we think, admit the justness of the conclusion, that the lesion in question constitutes the *anatomical character* of the disease. Its non-inflammatory nature seems equally clear. Farther than this M. Louis does not pretend to go. He does not endeavour to magnify its importance, nor does he, as we shall soon see, endeavour to trace the symptoms to it as to their source. He is contented to stop when he can no longer have facts for his guide, and instead of indulging in fanciful hypotheses, confines himself to rigid induction. On the other hand, he does not depreciate the importance of other lesions, as, for instance, that of the stomach; nor assert, as has been done, that gastritis is not a prominent feature of the disease, and that ulceration of the stomach never takes place in any form, two instances of the latter lesion having been reported by him. He not only admits the unwonted frequency of gastritis in yellow fever, but establishes the fact upon more certain ground than has been heretofore done, and also points out the very early stage of the disease at which it appears, co-existing apparently, in some cases, with the very first symptoms. He is not afraid, in short, to lay all the facts before his readers, and asks only the same impartiality in the examination, which has guided him in the publication of them. His discovery of the anatomical character of the disease, is a beautiful illustration of the value of the system of observation which he has so successfully

employed; for an altered condition of the liver, in many cases, had not escaped the notice of previous observers, who nevertheless, for want of examining and recording the condition of all the principal organs in every case, and then comparing them accurately and at their leisure with one another, and with what is found in other diseases, have been prevented from determining that this alteration was *constant* and *characteristic*.

It will be recollected that the conclusions of M. Louis are exclusively founded upon facts observed during the epidemic of 1828 at Gibraltar, and hence it becomes an interesting subject of inquiry to determine whether they are applicable to the disease, wherever it is found. In many respects, they clearly are so, but in reference to the characteristic lesion of the liver, it is evident that a greater number of facts than those at present before the public are requisite to settle the question; nevertheless these facts are sufficient to enable us to arrive at a probable result. It is stated by M. Littrê, who had no doubt examined the accounts of a great number of writers on the subject, in his article on yellow fever in the *Dictionnaire de Médecine*, that the liver appears to be altered, especially in its colour, which is almost always rhubarb yellow. Chisholm, in his account of the fever at Grenada, states that, in five cases which were examined, the liver was small, uncommonly flaccid, and of a colour approaching to buff, or a mixture of yellow and that of ashes. Dr. Jackson, in his account of the fever at Philadelphia in 1820, says, "that the liver did not present any constant appearances that could be considered as necessarily arising from the disease."* By a reference, however, to some manuscript notes taken by Dr. Hays, the editor of this Journal, of five autopsies made at the City Hospital during the same epidemic, I find that in every case the liver is noted as being pale or rather pale, though, at the same time, it was regarded as healthy. On the other hand, the liver has been described as healthy, without any mention being made of any alteration of colour, which by no means proves that such alteration did not exist, since it might readily have been regarded as of little or no consequence, and perfectly consistent with a healthy condition. Undoubtedly, however, the liver has been occasionally described as presenting appearances with difficulty reconcilable with the supposition that it was in the condition described by M. Louis. The preponderance of evidence, however, is greatly in favor of the supposition, that an analogous condition of it has existed in most epidemics. The most important evidence upon this subject, is derived from a letter recently received by M. Louis from M. Rufz, a physician for some years established at Martinique, and deeply conversant with pathological anatomy, who states, "that the lesion of the liver which forms the anatomical character of the yellow fever of Gibraltar of 1828, has been found by him in the cases of yellow fever which he has observed at Martinique, and that this is the only constant and uniform lesion." It seems highly probable then that this lesion will be found to be universally characteristic, and, if so, its discovery will constitute an important era in the history of the disease, and add another to the many well earned laurels which grace the head of its author.

The *bile* was thick, scanty, and of a dark green colour in all but two cases, in one of which the gall bladder contained two clots of blood, and in the other a liquid of the colour of urine. Except in the first of these

* Philada. Journal of the Med. and Phys. Sciences, vol. II, p. 21.

cases, the gall bladder and biliary ducts presented nothing remarkable, the latter being free, and their mucous lining natural, so that here, as in other acute diseases, yellowness often takes place without any impediment to the free course of the bile in the biliary ducts. I have often, when in Paris, seen M. Louis point out the perfectly healthy condition of the biliary ducts in cases of jaundice, and since then have had frequent opportunities of verifying the truth of the observation as applied to the diseases of Philadelphia.

The *spleen* was natural in half the cases, and very nearly so in the remainder, with one or two exceptions; a condition very different, as our author observes, from that which is found in typhoid fever.

The *urinary organs* were almost always natural.

The causes of death are next investigated.

"Having already remarked several times at the close of the preceding observations, that it was by no means always possible to explain the death of those who fell victims to the yellow fever of Gibraltar, by means of the condition of their organs, I have now to point out the proportion in which this is the case. There are, however, real difficulties in an attempt of this sort, and in some cases there is even uncertainty. Lesions, apparently slight, may explain the death when they have taken place rapidly, as in the cases now under consideration. And then, again, in the present state of science we cannot appreciate the nature of the specific lesion of the liver, and consequently we cannot determine how far it had any thing to do with the death. I shall have regard to these two circumstances in my investigation of the causes of the death of the individuals, whose histories I am analysing, and for that reason I count on the reader's approbation of my conclusions."—pp. 143–4.

Our author then goes on to show that in eight of twenty cases in which all the organs were examined, the lesions observed were entirely insufficient to explain the death of the patients, and that as the same is not observed in any thing like such a proportion in other acute diseases, it must consequently be regarded as one of the characteristics of yellow fever, at least of that of Gibraltar of 1828. He then says:

"And if observation shows that there is in disease something beyond what we see, that its cause has sometimes a great deal to do with the death of those who are attacked by it, this double proposition is more evident here, where we must admit that the cause of the disease often kills by itself, or independently of appreciable alterations of the organs, and even up to a certain point, of apparent derangement of the functions. We must remember that nearly the same thing happens in many cases of poisoning.

"It results also from the facts we are studying, that if an intimate knowledge of the lesions observed in subjects dying of yellow fever is indispensable to the practitioner, he must also remember that in this disease, as in others, there is something besides these lesions, and that he must profit by all that experience or chance may teach him of the best mode of treatment. The treatment called rational is less sufficient here, inasmuch as the most constant of the lesions, that which forms the anatomical character of the disease, cannot be characterised or appreciated in the present state of science, so that we cannot calculate on treating the disease successfully by any of the established modes or formulas."—pp. 145–6.

Let those who accuse M. Louis of attributing too great an importance to pathological anatomy, after reading the extract which we have just given, ask themselves candidly whether the charge is not unfounded. Further, let them ask if in their own views of the nature and treatment of some diseases, they are not more influenced by what they *imagine* to be the condition of the organs, than M. Louis is by what he *knows* to be their

condition, and some, at least, if they sincerely and carefully scrutinize the grounds of their views, will be obliged to answer in the affirmative. How often do we hear the most preposterous absurdities gravely announced, and sustained upon the ground of some partial, doubtful, or altogether false data, the offspring of a loose and imperfect observation, by men who plume themselves with the idea that they are wonderfully sagacious and profound, or even possessed of great practical sense, whilst at the same time they are decrying those who endeavour, as far as possible, to adhere to the most strict system of observation and induction. Let such as these, when they read the extract above quoted, learn a lesson of caution, both as regards their practice and their denunciations, and admit that M. Louis has here placed the treatment of disease upon its most solid basis. So far as our positive knowledge of the lesions will serve as a true guide in practice, let it be employed, but when this fails, let us resort to experience, and not to *speculations* upon the nature of disease. In this way a just theory, partial or general, according as facts will enable us to render it more or less complete, is not excluded.

In that portion of the cases before us where the condition of the organs accounted satisfactorily for the death, as well as where it did so but imperfectly, the fatal termination is attributed principally to the lesions of the mucous membrane of the intestines, and in one case only to exhalation of blood in the intestinal canal.

After a general review of all the morbid appearances, M. Louis goes on to observe that two only are peculiar, or almost so, to yellow fever; the rest being common to it and other acute diseases. The two just referred to are the remarkable alteration of the liver, and the red or black matter found in the alimentary canal; of those of the second class the inflammation of the stomach is one of the most prominent, and as this inflammation did not occur in all the cases, and the glands of Peyer were natural, the inference is conclusively drawn on the one hand that the disease was not a gastritis, and on the other that it was not a typhoid fever.

"What then is the nature of the yellow fever of Gibraltar, of 1828, and where is the seat of it? If it be neither a gastritis nor a typhoid fever, neither is it a hemorrhage, as it has lately been said to be, for the hemorrhage did not take place in all the cases. Is it a disease of the liver? Undoubtedly the liver was the organ principally and essentially affected; still we cannot regard the yellow fever as simply a disease of the liver, because its lesion, at least in the present condition of science, does not explain the febrile symptoms in the cases where this was the only lesion, and in the second place, because it is entirely insufficient to explain the death.

"As then a strict analysis of the anatomical appearances of the yellow fever of Gibraltar, of 1828, proves the existence of a cause, unequal in its operation, and of which but one effect is constant, the specific alteration of the liver, and as in a third part of the cases, it is directly to this cause that we are obliged to refer the death, we naturally ask how does this cause act, through the medium of what system does it exert its influence on the economy? Is it through the nervous system, is it through the blood, in which, however, we have not detected any especial modifications?" p. 164.

The propriety of attributing the death directly to the cause of the disease does not seem perfectly clear, for this cause must first have occasioned certain changes, whether appreciable or not, in the solids or fluids of the economy, or both. Besides a considerable length of time must necessarily have elapsed between the application of the cause and the fatal termi-

nation, since the liver in every case was found remarkably diseased. In almost every case, too, a peculiar red or black matter was found in the alimentary canal, which presupposes a peculiar alteration in the parts from which it was secreted, although our senses are unable to appreciate it. Of the nature of this change, as well as of that of the liver, we are entirely ignorant, and of course cannot say what influence they are capable of exerting; but, admitting that they are insufficient to occasion death, which is highly probable, other changes with which we are unacquainted must have been going on at the same time, to which the fatal termination is directly attributable. Because these changes are not cognisable by our senses, it does not follow that we should not attribute death to them as well as to the cause of the disease, since both are equally unknown to us, and we have the same proof of the existence of the one as we have of that of the other. If we inoculate a patient with the virus of small pox, and he dies of the consequent disease, and upon the examination of the body we do not find sufficient lesions of the organs to explain the cause of death, we would not certainly attribute it directly to the virus which we had applied, but rather to those changes in the economy which had followed its application. Upon the whole it seems objectionable to attribute death *directly* to the cause of the disease, as has been done by M. Louis, for two reasons.—In the first place it is, strictly speaking, an absurdity to attribute directly to a given cause, that which is directly consequent upon an effect of that cause; thus, to say a man died of the cause of a disease, is to say that the disease did not kill him. In the next place, if we take the expression in a more extended sense, in which perhaps it was intended to be used, though it is not so expressed, and suppose it to mean that death was the immediate result of the primary effects of the application of the cause, the proposition is still, if not altogether untenable, at least incapable of proof, as will very clearly appear, if we recollect what was before adduced, that the liver in every case, and the alimentary canal in almost every case were the seat of lesions, the influence of which we cannot estimate, and the existence of which shows that a considerable length of time must have elapsed between the application of the cause and the fatal termination, during which *consecutive* changes must have taken place in the constitution or structure of some of the elements of the economy. It seems, therefore, as though it would be a more correct mode of expression, in reference to the cases before us, to say that the cause of death is unknown.

The *third part* of the work is devoted to a history of the symptoms, the mortality, &c. A general description of the symptoms is first given under two separate heads, as belonging to the fatal cases and to those which recovered, the latter being divided into mild and severe. This description is a perfect model of its kind; the period at which each symptom commenced, their succession, &c., being noted with remarkable accuracy. We should like to transfer it to our pages, but its length prevents us. The most prominent symptoms were an intense headach, chill, shivering, and pain in the limbs at the commencement, followed soon after by pain in the back. To these succeeded moderate heat, a red, glistening and suffused eye, anorexia, and intense thirst. These symptoms continued; the headach during half the disease, the pain in the limbs and heat, a little longer. Pain at the epigastrium usually came on about fifteen or twenty hours after the commencement of the disease, accompanied by nausea and vomiting; dejections rare; abdomen supple, not painful on pressure, except in the

epigastric region; sleep inconsiderable, &c. Pulse moderately accelerated, generally bearing relation to the degree of heat; skin of thorax injected. Towards the middle period of the disease this redness and that of the eyes diminished, and were succeeded by a slight yellow tint; about the same time, or a little later, the matter vomited, from being of a yellow colour, became brown or black, and the dejections blackish or black. At this period the strength diminished and the temperature fell. These are some of the most prominent symptoms of the fatal cases. In some a deceitful remission took place, and in others the mildness of the symptoms was such that patients died without taking to their beds. In the cases which recovered the epigastric pains were less frequent, the brown and black vomit rare, and in the mild cases entirely absent. After laying before his readers the general description, of which we have just given a few of the most prominent features, and in which we cannot fail to recognise, as far as symptoms will enable us to do so, a disease similar to the yellow fever of our own country, M. Louis proceeds to analyse each symptom in detail, to determine its relation to observed lesions, its value as a diagnostic sign, &c. It would, perhaps, be out of place and uncalled for, to follow M. Louis closely in this part of his work, as to do so would require much detail, and we have already devoted considerable space to the previous part. We shall therefore notice this in a cursory manner.

Headache was almost always the first symptom experienced by the patient, and could not be attributed to any morbid condition of the brain, which was usually natural; nor to disease of the mucous membrane of the stomach, which almost always came on after the commencement of the headache, the latter existing only during the first half of the disease, whilst the former increased every day. M. Louis, in analyzing the symptoms, divides the cases into four classes, one of which includes the fatal cases observed by M. Trousseau and himself, the second the fatal cases communicated by others, the third the cases which recovered, observed by M. Trousseau and himself, and the fourth those communicated by others. In the very slight sketch which we shall give of this part of the work, we shall allude merely to the fatal cases observed by the commission, unless in a few instances, in order the more readily to accomplish our purpose and avoid repetition.

Delirium either did not occur at all, or only during the last twenty-four hours, except in three instances, and even here it was slight. Like the headache, the delirium could not be explained either by the condition of the brain or the stomach. During the latter half of the disease, anxiety and restlessness was really great in a number of cases, and in these the mucous membrane of the stomach was always found "incontestably inflamed."

The loss of strength seems generally to have been inconsiderable, and "this fact," says M. Louis, "is in harmony with the condition of the organs, the lesions of which were usually much less severe than in individuals dying of other acute diseases."—p. 198.

Deafness did not occur in any case, and ringing in the ears in only one.

"The sight, properly speaking, was not affected, although the suffusion of the eyes and the sensibility to light were rather frequent. We found the conjunctiva more or less injected in all the cases where it was examined at a period near the commencement of the disease."—p. 200.

"There was no epistaxis in any case. This fact is remarkable in a disease

where the disposition to hemorrhage was so great, and the more remarkable, since epistaxis is frequent in other acute diseases where no such disposition exists, as in typhoid fever; so that in the absence of epistaxis, we have something distinguishing yellow from typhoid fever."—p. 201.

Chills occurred in every case, almost always at the commencement, and were followed by heat, which was generally moderate, and in several fatal cases there was a diminution of the temperature, one, two and three days before the fatal termination.

"We should remark that this loss of heat took place nearly at the time of the gastro-intestinal hemorrhage, that this hemorrhage must be taken into the account in any explanation we may make of the phenomenon, although, as I have remarked in the second part of this work, it cannot be considered one of the principal causes of death, and individuals who have recovered after more considerable hemorrhage from other organs, did not lose their heat in a similar manner."—p. 208.

The frequency of the pulse was moderate. Its force and size were variable, and as, in some cases where it deviated most, in these respects, from the natural standard, there was nothing found in the condition of the heart or stomach to account for this deviation, M. Louis concludes that the cause of the disease had some influence in its production. He says,

"Thus, whilst on the one hand, the inconsiderable frequency of the pulse and the slightly increased heat denote a slight reaction of the artery, the independence of the pulse, as to its fulness or force, of the state of the heart and stomach, seems to show that the cause of the disease had some influence in the production of these different characters. So that the further we advance in the study of the symptoms, the more confirmation we find of what has already been said at the commencement of this work, as to the action of the cause of yellow fever on the economy, independently of apparent lesions of the organs."—p. 210.

The impossibility, in so large a number of cases, of explaining some of the symptoms, the cause of death, &c., by means of any appreciable changes in the organs, seems to be very remarkable in yellow fever; and though, perhaps, common to it and a few other affections, is not found to anything like so great an extent in most acute diseases. So far as the idea of the independence of symptoms, &c. of the appreciable lesions is intended to be conveyed in the extract we have just made, we fully agree with M. Louis, and the importance of the observation must be evident. It points out very clearly, if we mistake not, that the pathology of the disease is to be looked for in some totally different condition of the system from that which belongs to *most* acute diseases, at least of temperate climates. M. Louis is one of those who fully admits that the scalpel does not discover to us all the important changes which take place in the economy; he has not only asserted, but done much to prove that "there is in diseases something beyond what we see;" and it seems to us that he would have enforced this idea and brought it out more fully, as well as adopted a more strictly correct mode of expression, if he had appealed to these changes in the explanation of various circumstances, instead of to the cause of the disease, as he has so frequently done in the present work, on the ground that the changes above alluded to are inappreciable by our senses. But because they are inappreciable, they should not be passed over in the chain of causation, since we have as positive evidence from the necessity of the case of their existence, as we have of that of the cause itself.

Epigastric pain was exceedingly frequent, and, with one exception,

occurred only in cases where the stomach was inflamed. Its greater frequency here than in other acute diseases where the stomach is inflamed, other things being equal, is attributed by M. Louis to the comparative infrequency of delirium in the yellow fever.

Vomiting also was very frequent, and, like the pain, was found, with one exception, in those cases only where the mucous membrane was inflamed. Clear at first, where it commenced the first day of the disease, it became yellowish, blackish, and also completely black. The matter vomited was brown or black in more than half the cases. In some the vomitings continued throughout the whole course of the disease, and were most commonly spontaneous. Among those who recovered black vomit very rarely occurred.

The tongue presented no peculiarity characteristic of the disease, but was more generally white and villous than in other disorders.

In the great majority of fatal cases, yellowness of skin existed during the latter stage, whilst among those who recovered it was more frequently absent.

According to the documents collected by the commission, and in which six hundred cases were recorded, the mortality was in the proportion of one to six and a half. Of the influence of age and sex, M. Louis says:

"Not only was the disease less severe in women than in men, much less in childhood than in adult age; but the same symptoms have not the same value for the prognosis at all periods of life. Thus the black vomit, which in men was the almost certain harbinger of death, took place in a great many children who recovered." p. 261.

In the chapter on *diagnosis* we have a beautiful exposition of the characteristic symptoms of yellow fever, their course, &c., and also of the differences between it and several other affections, viz. typhoid fever, gastritis, and hepatitis. Upon the whole it appears that during life the diagnosis is not difficult in the majority of severe and fatal cases, where the course of the disease was rapid, death taking place in from four to six days, and when black vomit and dejection, yellowness of the skin, and extremely uncomfortable feelings, anxiety or restlessness were present. Doubts could exist only when most of these characters were absent, or when the disease presented itself under an anomalous form, and here a post mortem examination would remove all uncertainty by revealing to us the characteristic alteration of the liver, and in most cases the existence of black matter in the stomach and intestines. We hence see the importance of such examination, and of a knowledge of this alteration of the liver, (admitting that it is truly characteristic of yellow fever under all circumstances,) at the commencement of an epidemic, in order to determine its character. In severe cases terminating favourably, doubts would be more likely to occur, since the black vomit is here generally absent, and the other symptoms are not in themselves pathognomic. A consideration, however, of the course of the disease, of the succession of the symptoms, and the absence of those characteristic of other diseases, will in general be sufficient. Thus:

"In hepatitis there is yellowness, but with it there are also more or less severe pains in the right hypochondrium, and an increase of the volume of the liver, which does not take place in the yellow fever. Then, the more or less severe headache at the commencement, the injection of the eyes, the anxiety, so usual in yellow fever, are not observed, and again the course of the last disease is so much more rapid. On the other hand, though in typhoid fever the stools

are sometimes brownish, this is not often the case, and takes place at a period more or less distant from the commencement of the disease. Then, in proportion as vomitings are common in yellow fever, they are rare in typhoid fever, or are observed only at an advanced period of the disease. A diarrhœa, more or less abundant, is found in the very great majority of cases of typhoid fever, and usually also at the commencement of the disease, whilst an opposite condition of the bowels is observed in yellow fever. The form of the abdomen is natural in this last disease; it is altered, and usually there is meteorism, in the other. The one is accompanied by eruptions on the surface of the body, by delirium, prostration, intense febrile symptoms; an opposite state of things prevails in the other disease. Again, typhoid fevers terminating in recovery, are slow in their course, whilst the duration of the yellow fever is much shorter.

"Gastritis may be distinguished from yellow fever, quite as easily, although gastritis is very frequent in this last disease. In both diseases there are vomitings more or less frequent, accompanied by epigastric pains; but the course of simple gastritis is much less rapid than that of yellow fever. It is rarely accompanied by severe symptoms, by that great anxiety, which is common in yellow fever, even when the patient recovers. The yellowness is sometimes found in the first disease, but only as an exception, and the black or blackish stools are not observed at any period. Nor is the remarkable injection of the eyes to be seen in gastritis, so that, as I have just said, with the slightest attention we can hardly confound the two diseases. In fatal cases, the addition of the black vomit to the other symptoms, would leave no doubt, and the autopsy would complete the demonstration, by the exhibition of certain lesions, of the importance of which I have already said enough, and especially of that of the liver, which does not exist in any other disease, and which forms the anatomical character of the yellow fever." pp. 288-90.

The next chapter is devoted to a consideration of the question, whether a first attack of yellow fever preserves from a second? In order to obtain data for this purpose, a commission was constituted at the conclusion of the Gibraltar epidemic, composed of thirteen physicians, and of which M. Louis was appointed president, M. Trousseau secretary, and Dr. Barry vice president. The medical men of Gibraltar were invited to come before the commission and communicate the results of their experience. Most of them had seen the yellow fever in Spain only, but some had witnessed different epidemics in Europe and America. The number of patients seen or treated by them all, amounted to somewhere about twenty-seven thousand. In this way but one well authenticated instance of second attack was found. In further proof of the preservative influence of a first attack of the disease, we make the following extract.

"From the facts already given, the reader can scarcely have a doubt of the preservative influence of a first attack of yellow fever. But it may be well to add to them the two following, as very remarkable examples of this truth. The first was given to the commission by Mr. Amiel. This gentleman visited professionally two young men of the name of Rey, during the Gibraltar epidemic of 1810. These same persons, in 1821, were on board a vessel anchored in Barcelona Bay during the yellow fever epidemic, which prevailed there. Several passengers on board the same vessel were ill, the whole ship's crew, nineteen in number, died, but the two Reys continued to enjoy perfect health. The second fact was reported by Mr. Broadfoot, and relates to civil and military domestics employed in the care of the sick during the last epidemic. The military domestics, one hundred and sixty in number, had never had the yellow fever in any anterior epidemic. The others, sixty-one in number, Spaniards or Portuguese with two exceptions, had already been its subjects. The two last, and forty of the military domestics, had the disease at different periods of the epidemic, all those, who had previously had it, escaped." pp. 319-20.

In the chapter on the treatment, a comparison is made between the English and Spanish practice; the former mainly consisting of drastic or other purgatives and calomel, with the employment of blood-letting, blisters, &c., as auxilaries; the latter of a mild purgative, as castor oil, with emollient enemata at the outset, purgative enemata at a later period in certain cases, free use of acidulated drinks, no food, &c., mercury being used in desperate cases only. The former plan of treatment was adopted in the army, whilst the latter, or one very analogous, was employed in the city of Gibraltar. In the army, the mortality was one in four and a half, whilst in the city it was only one in six, so that the feeling amongst the inhabitants in favor of the Spanish practice would seem to be justified. But we are told that those treated by the military surgeons were adult males in the vigor of life, whilst in the city the male patients were less robust, and a large part of the whole number were composed of women and children. The probability of recovery then being greater under the latter condition than under the former, M. Louis thinks that when this circumstance is taken into the account in the comparison, the Spanish treatment will no longer appear to have had the efficacy which has been attributed to it. Before pointing out the plan of practice which seems most in accordance with what we know of the symptoms and lesions, our author reminds us that death was unexplained in many cases by the condition of the organs. The importance of a negative fact is here very apparent, for when we are convinced that the most important changes in the economy have hitherto escaped us, and that consequently the nature of the disease is altogether unknown to us, we neither reject that mode of treatment which is empirical, nor admit too readily that which is speculative. We make use of our knowledge of the symptoms and lesions as far as it will carry us with safety, and leave the rest to experience. M. Louis recommends moderate blood-letting at the outset with the use of cool and slightly acid drinks, mild enemata, and fomentations to the epigastrium. He does not regard blood-letting as the principal remedy, and thinks it should be repeated only under particular circumstances, as when the vomitings suddenly become frequent, or the epigastric pain severe, the fever being unabated and the patient strong. He proposes the use of astringents to correct the secretion of black matter from the intestinal canal.

"It would, perhaps, be well to prescribe astringents before the appearance of the black stools, when the temperature falls, at the end of the third, or in the course of the fourth day of the disease. Undoubtedly writers have gone too far, and much too far, in considering the yellow fever as a hemorrhagic disease, and pointing out astringents as its true remedy. For, on the one hand, the quantity of blood lost affords an explanation of the fatal termination of the disease in but very few cases; and, on the other hand, patients die who have never had any hemorrhage at all, and this symptom is rarely met with in patients who recover. Still, it ought to arrest our attention, since, in the cases where it exists, it has more or less to do with the fatal termination of the disease."—pp. 336, 337.

He asks, also, whether, in the first period, when the heat is considerable, cold baths or cold affusions might not be used; and also whether, in the second stage, when the temperature is diminished, a hot water or vapour bath might not be advantageous.

The fifth and concluding part of the work is devoted to the consideration of the question, whether yellow fever is ever sporadic at Gibraltar. The facts upon which the conclusions upon this subject rest, were communicated

to the commission by MM. Amiel and Fraser, and consisted of cases regarded by them as yellow fever, extracted from their registers. The cases were forty-five in number and recorded at different periods. After analyzing critically the symptoms of these cases, and the post mortem appearances of those which proved fatal, M. Louis concludes that we must allow several among them to be instances of yellow fever, though many were not so. Had our author been practically acquainted with the bilious remittent fever, which, according to the authority of Dr. Hennen, occurs annually at Gibraltar, he would, perhaps, have restricted the number of those which he has admitted to be yellow fever. However, admitting that a certain portion of them were really cases of this disease, we cannot hence rigorously conclude that the yellow fever is, strictly speaking, sporadic at Gibraltar, since, for aught we know to the contrary, the patients might have had communication with vessels having the disease on board, or which had recently arrived from ports where it was prevalent. For whatever opinion physicians may hold as regards the origination of the disease from such a source, i. e. an infected vessel, when it has prevailed to a great extent; no one, we think, can reasonably doubt that isolated cases have originated in this way.

We have now laid before the reader a general account of the most prominent points in the work before us; a work which, notwithstanding the limited space of time allowed to its author for the observation of the epidemic of which it treats, and his previous want of any practical acquaintance with the disease, contains a more accurate, and in many respects more complete description of it than any which has heretofore been published. Some of his conclusions are altogether new, and others acquire a new degree of value from the greater precision with which they are stated and the conclusiveness with which they are established. Upon the whole, the work cannot fail to exert a great influence upon the views of medical men in relation to the pathology of the disease, and should be in the hands of every one who is called upon to practice in countries where the yellow fever prevails.

For being put in possession, at the present time, of so valuable a contribution to medical science, the profession in this country is much indebted to the translator, Dr. Shattuck, of Boston. His style is easy and perspicuous, and is, in general, free from gallicisms—a circumstance particularly worthy of commendation at the present time, when the reverse is so often met with. If we were disposed to be critical, however, we should object to the use of the term *observation* for *case*, since the latter has been, until lately, universally used by English writers, and we can see no good reason why the former should be substituted for it.

The style in which the work is got up is highly creditable. It is, indeed, one of the most beautiful volumes ever published in this country on any medical subject. T. S.

BIBLIOGRAPHICAL NOTICES.

ARTICLE XV. *Remarks on the Pathology of the Typhoid Fever of New England, as exhibited in its Physical Signs and Anatomical Appearances.* By ENOCH HALE, M. D., Attending Physician to the Massachusetts General Hospital. Boston: 1839, 8vo, pp. 77.

IT is a useful and interesting task occasionally to look back and take a view of what has been done for the advancement of any particular branch of medical science. This is especially the case in regard to fever, inasmuch as the speculations and hypotheses concerning its nature, which formerly constituted our sole method of philosophizing on the subject, have now given place, thanks to modern and more accurate methods of investigation, to a careful study of the phenomena presented during life and the lesions exhibited after death.

Dr. Jackson was the first to call the attention of American physicians to the work of Petit and Serres, which he reviewed in 1815, and he was also one of the first who called attention to the labours of Louis. In his report published last year, he gives the results of 303 cases of undoubted typhoid fever, and of sixty-five others which he considered doubtful. These cases occurred between the opening of the hospital in 1821, and January, 1835, when Dr. Jackson ceased to attend the institution. It was not, however, until 1833, as he tells us, that the same degree of strictness was introduced into the records that has marked the investigations of Louis. The conclusion Dr. Jackson formed from the review of these cases was, that the continued fever of Boston, which has been the same since 1833 as before, is the same as that described by Louis.*

Dr. Hale in the present report has pursued the investigations of Dr. Jackson, commencing in 1833 and brought them down to the present year, so as to obtain a view of the results of all the cases since the records were rendered more strict; and to these he has added the post mortem examinations of fifteen cases occurring in private practice.

Dr. Hale is well qualified for pursuing these inquiries, both from his situation as physician of the hospital, and from his having directed his attention at an early period to the subject of fever. His history of the "Spotted Fever," published in 1818, is well known to the profession.

Dr. Hale follows the example of Dr. Jackson and Dr. Gerhard, in applying the term *typhoid* to the continued fever of New England and Paris, while *typhus* is used to designate that of Great Britain.

The distinctive marks of typhoid fever to which attention has been called, are *meteorism*, *enlargement of the spleen*, *rose spots* on the abdomen, and *sudamina*.

Out of 197 cases, *meteorism* was found in 130. In twenty-four there was nothing in the record to show whether it was present or absent; and in forty-three it is expressly stated to have been wanting.

Enlargement of the spleen Dr. Hale does not consider of much value as a pathognomic sign. This organ is occasionally felt below the ribs, or by pressing the fingers under the cartilages during a full inspiration. In many cases it cannot be felt even when examination after death shows it to be much enlarged.

* See this Journal for November, 1838, p. 131.

Where it is felt, however, it may be regarded as a pretty sure proof of the nature of the disease. It was felt in nineteen cases, not felt in twenty-one, and not noted in 157.

Rose spots are recorded in 177 out of the 197 cases. In a greater part of the remaining twenty, sufficient attention does not appear to have been paid to them to render it certain that they did not exist. Most of the omissions occurred in the earlier part of the period above specified, before the full importance of this diagnostic mark was appreciated. Dr. Hale considers them as a constant attendant upon the disease.

Sudamina were noticed in seventy-five cases, and probably existed in many in which they were not recorded. It is stated that they were not found in fifteen cases.

Dr. Hale proceeds to the inquiry, whether these marks are found in other acute diseases? The whole number of these which had occurred in the hospital was 159, omitting those in which there was primary local disease. Meteorism is recorded in nine. The spleen was felt below the cartilages in none; rose spots were observed in none; sudamina in eight. Allowance, he remarks, should be made for the greater attention with which these appearances were sought for in fever than in other acute diseases. The conclusions are, then, that meteorism is rarely found in other diseases, while it is quite common, but not entirely constant, in typhoid fever. Enlargement of the spleen, when felt pretty strongly, indicates the disease. Rose spots are found in nearly every case of this; but not in any other disease. Sudamina are of little value as a diagnostic sign. Although oftener found in this than in other diseases, they are neither constant nor are they limited to typhoid fever.

The whole number of post mortem examinations given by Dr. Hale is thirty-three. The head was examined in fourteen. There was some effusion of serum in the arachnoid or pia mater in ten cases; an increase of bloody points in the cerebrum with other marks of fulness of the blood vessels in four; glands of Pacchioni enlarged in two; and three were healthy. These appearances are not peculiar to this disease, but are found quite as often in many others.

The passages in the neck were examined only in seven cases. Ulceration of the epiglottis was observed in one case, and ulceration of the tongue in two. In the remaining four all the passages were healthy.

The state of the lungs was noticed in thirty-one cases. In eighteen they, as well as the pleura, were healthy; in three there was effusion into the cavity of the pleura; in eight hepatization more or less of the lungs, sometimes in one or two small masses; at others extensive; and, in one or two cases, in both lungs. In two the lungs were engorged with blood; in one infiltrated with serum; and in two there was more or less emphysema. The heart was examined in twenty-eight cases. In three there was somewhat more than the usual quantity of serum in the pericardium. The structure of the heart was healthy in all, except rather flaccid in two or three. In about the same number there was a little thickening of the mitral and semilunar valves.

In the abdomen the morbid changes were more important. The peritoneum was sometimes found extensively and highly inflamed. In the greater number it was not particularly affected. The condition of the stomach is noted in thirty-two cases. In seventeen it was nearly or quite healthy. In six there were ulcerations in the mucous membrane, in one case perforating it; in the remaining five small and superficial; in five the mucous membrane was softened more or less extensively, but in no case thickened; and in five it was somewhat mamelonated.

In the small intestines the mucous membrane generally was healthy, except that it was often of a deep-red colour in the lower part of the ileum, and sometimes a little softened.

Dr. Hale next speaks of the appearance of Peyer's glands in their natural state, and describes the changes produced by disease. He notices four classes of appearances, according to the stage of disease in which the patient has died. When this occurs early, there is a well defined uniform thickening of the altered

patch, commonly of a light-red colour over the whole surface, sometimes surrounded by a deeper red line; the intervening surface being softened and studded with numerous minute, white, opaque points. Twenty or more of these patches are often discovered. They are most numerous at the lower extremity of the small intestines, and the disease is always more advanced in those near the cœcum than at a greater distance.

In a somewhat later stage ulcerations are observed in some of the diseased patches. They are of different sizes, sometimes quite small, at others occupying nearly the whole patch. They are situated in the submucous cellular coat of the intestine, laying bare and sometimes destroying the muscular coat; in some instances they penetrate the peritoneal coat. In these there is the same evidence of greater progress in the patches near the cœcum. Not unfrequently there is a particularly large and deep ulcer almost or quite in the cœcal valve, while some elevated patches, higher up, are free from ulceration.

In cases where the patient has relapsed after a temporary convalescence, when he dies of pneumonia, or other cause, after a long struggle, the ulcerations of Peyer's glands are found cicatrized. The margin is of a bluish or grayish colour, and sometimes the colour is diffused over the whole patch, and a delicate mucous membrane is found extended over the cicatrized surface. The cicatrization is found further advanced near the termination of the ileum than above, showing, as in the other cases, that the affection of the glands began in this part.

The fourth class of appearances are formed by perforation of the intestine. This is of various depths, sometimes it takes place in the peritoneal coat, and the contents of the intestine are poured into the peritoneal cavity, producing violent inflammation and speedy death. This termination is not confined to cases that have been previously remarkably severe. It often occurs in those at first of a mild character. The patient has been walking about the room with a confidence of a speedy recovery, when he has been suddenly seized with excruciating pain in the abdomen, and died in a few hours. There are no intimations by which the danger of this occurrence can be foreseen.

In one or more of these modifications, an affection of Peyer's glands is found in every case of typhoid fever. Out of the thirty-three cases, nine presented only the first stage of this affection; thickening, softening, and a red surface. In eighteen, while some of the diseased patches were in this stage, others, near the lower extremity of the intestine, had passed into ulceration; the ulcers varying in number from two or three to twenty or more. In three some of the ulcers near the cœcum had been cicatrized, and in three the intestine was perforated. The perforation was in no instance in the ulcer nearest the cœcal valve, and in one case it was at a distance of four inches. The periods when these changes occur are various. In two, ulcerations were found before the twentieth day, while in one the disease had continued four months, and there were but three ulcers and no cicatrization.

The solitary glands in the small intestines were enlarged in fifteen cases. In eleven, they were not visible; and, in seventeen, they are not mentioned in the record; probably they were not enlarged. The affection of these glands was chiefly found in the lower portion of the intestine. In the large intestines the solitary glands were found enlarged in five cases; healthy in seven, and in six they are not mentioned. In two, the mucous membrane was softened. In seventeen, ulcers quite numerous were found in the cœcum or first part of the colon. These ulcerations were not large, like many of those in Peyer's glands, but small and distinct. In one case, in which the immediate cause of death was hemorrhage from the bowels, a firm coagulum of blood was found hanging from an ulcer in the cœcum, showing the source of the hemorrhage. In this, and many other cases of hemorrhage, both the large and small intestines contained a considerable quantity of blood.

The condition of the mesenteric glands corresponded to the state of disease of the intestinal canal. Those glands which belonged to the healthy portion of the

intestine were healthy, while those of the diseased part were enlarged, red, and infiltrated. At later stages they were found softened and sometimes suppurated.

The liver was examined in twenty-seven cases; its structure was healthy in fourteen; more or less soft and friable in ten; hard in one; congested in one, and in one the serous coat of the left lobe was highly inflamed and covered with a coating of lymph.

The spleen was large in twenty-one cases. In some it was enlarged to twice or thrice the natural size, and then commonly soft in its internal texture, breaking down by pressure into a sort of thick, dark red fluid. In seven cases it was of its natural size; in two small; in two its condition was not noted.

Dr. Hale gives an abridged history of four cases, one in illustration of each of the forms in which he has described Peyer's glands as affected.

He next proceeds to inquire as to what extent the same morbid appearances are to be found in other acute diseases. For this purpose he examined the records of 159 cases of acute diseases at the hospital. Of these eighteen were fatal, and fifteen were examined after death. Sufficient data were not found for a comparison of the state of the head, lungs and heart. The stomach was noted as healthy, or nearly so, in seven cases; the mucous membrane was mamelonated in three, and in five its condition was not particularly described.

The state of Peyer's glands is referred to in eleven cases, in all of which they were healthy. In two the organs of the abdomen are declared healthy; in two no reference is made to them. Dr. Hale mentions six other cases of similar diseases, in all of which they were healthy. He states that there is no other disease except typhoid fever in which these glands have been found diseased in the adult. In phthisis they are the seat of ulceration and of tubercular deposits, but the appearances do not resemble the thickening and ulceration of typhoid fever.

In teething children the glands are affected in precisely the same manner as in typhoid fever. Dr. Hale has seen six cases in his practice, of children, who have died during teething, in which the glands were thus affected.

In four of the fifteen cases of acute disease, before referred to, the solitary glands of the small intestines are noticed as enlarged; and in one they were ulcerated in the cœcum. In the remaining eleven they are not mentioned, probably because no disease was observed in them. The spleen was mentioned in three cases, in four it was small, and in three of natural size or healthy. In one case where it was large, and in two where it was small, its texture was soft. The liver was examined in all the fifteen cases. It was healthy in seven, and somewhat soft or friable in eight. In three it was large, in three small, and in nine its size was not noticed as unnatural. The other organs furnished no points of comparison to demand attention.

From this statement it appears that the spleen, stomach and liver, were affected in a less proportion of cases than occurred in the observations of Louis. Dr. Hale, however, considers the only essential difference between the fever of Paris and New England, to be in the greater frequency of diarrhœa in the latter. This difference is, however, the same in other acute diseases.

The fever of the continent of Europe appears, by the report of various observers, to be the same with that of Paris.

Dr. Hale next comes to a comparison of the typhoid fever, with the continued fever of Great Britain. He observes that as so large a portion of our medical literature is derived from England, it is more important for us to know whether diseases similarly designated in the two countries correspond, or whether they are different.

The labours of Louis have met with comparatively little attention in England. The few observers who undertook the investigation, found that the results did not correspond with those of Louis, and thence concluded, not that the fever of Great Britain was different from that of Paris, but that the observations of the French physician were erroneous, or that the lesions noted were merely accidental. Within the last year, indeed, more attention seems to have been paid to the subject.

Dr. Hale enters into a full examination of what has been furnished by English observers upon this subject. The result of this examination goes to show that the fever described by Tweedie, Southwood Smith, &c., and by the earlier English writers, is the same with that of Paris; but that within the last eight or nine years a new epidemic has appeared there, commencing in Ireland and Scotland, and soon extending over England. This fever is more sudden in its onset, more violent in its symptoms, and more rapid in its course than the typhoid. In a large proportion of cases it is destitute of the characteristic affection of Peyer's glands. It corresponds, in short, with the affection that has been described by Dr. Gerhard as epidemic in the Philadelphia Almshouse in 1836.*

Dr. Bright seems to have been the first English writer who noticed the affection of the glands of the ileum in fever. He gave an account of ten fatal cases, with dissections and figured illustrations of the morbid appearances in the several stages of the disease. These cases occurred in Guy's Hospital in 1825, 1826 and 1827, and were published in his Reports of Medical Cases, in 1829. They seem to have met with little attention. There is no doubt, however, that they were genuine cases of typhoid fever.

Dr. Hale alludes to a question of great practical importance. This is, can we always distinguish the two continued fevers from each other by their symptoms during life? It appears that Dr. Lombard and other observers, who were familiar with the typhoid fever of Paris, were much astonished at finding cases in England, of what appeared to them genuine typhoid fever, but which show none of the post mortem appearances which they had confidently expected; so much so that Dr. Lombard, under the first impulse, abandoned the opinions formed upon six years' investigations, and concluded that typhus fever was a general disease affecting the whole constitution, rather than a malady depending upon any local inflammation or any change of structure.

It appears, then, from the investigations of these and other accurate observers, that in the present state of our knowledge at least, the fever called *typhoid* or *dothinenteritis*, cannot always be distinguished during life from that designated *typhus*. It is not impossible that further inquiries may show other marks of distinction, which are not now recognized. As it is, however, the general characteristics of the two are such that they can be, in most cases, distinguished.

The most important characteristic of the French and New England fever, consists undoubtedly in the affection of Peyer's glands. But can we consider this affection, which in many cases is slight, as sufficient cause for the whole disturbance of the system and for the fatal result in many cases? This seems to be the opinion of Louis, and it is decidedly expressed by many of his followers. The cause seems to be an inadequate one, and it is more rational to conclude, as does Dr. Hale, that it is an effect, like the general disturbances of the system, of some cause at present unknown.

If professional men throughout our country would imitate the example given them by Drs. Jackson, Hale and Gerhard, we might soon have such information from all quarters as would go far to decide this question, and at the same time give us great additional knowledge on the subject of fever.

With regard to the treatment of the disease, the result of the cases at the Massachusetts hospital, for the last two or three years, have been more in favour of a mild treatment and less in favour of an active course, than was approved by those up to the time to which Dr. Jackson's report extended.

In conclusion, we think the report of Dr. Jackson and these "Remarks" of Dr. Hale ought to be in the hands of every member of the profession. They deserve our admiration for the impartiality and freedom from hypothesis with which their results are communicated, and our gratitude for the labour and accuracy with which their investigations have been pursued.

E. W.

* Vide vol. xix, p. 289, and vol. xx, p. 289, of this Journal.

ARTICLE XVI. *Diseases of the Uterus, a series of Clinical Lectures delivered at the Hospital la Pitié.* By M. LISFRANC, and edited by H. PAULY, M. D. Translated from the French by G. H. LODGE, M. D., &c., Boston, 1839.

Soon after the publication of the original, the attention of our readers was invited to this work, (see our Number for November, 1837, p. 179); but as, on that occasion, we restricted ourselves mainly to a notice of that portion of it which treats of amputation of the neck of the uterus, and as the remaining parts contain matter of much interest, we shall take advantage of the appearance of the translation of Dr. Lodge, to present a brief summary of these last.

The first part is appropriated to remarks on the surgical anatomy of the female organs of generation, designed to elucidate diagnosis and to simplify operations. Attention is called, in the first place, to the anatomy of the perineum, and particularly to a fold of this part, which is important upon several accounts. It consists of an erectile tissue, whose thickness varies in different individuals. In the efforts made to expel a foreign body from the cavity of the pelvis, this erectile tissue frequently forms upon the perineum a tumour almost hemispherical, soft and spongy, and generally as large as the extremity of the little finger. It has sometimes been considered anormal, but disappears with the exertion that produced it. The perineum varies in breadth from four lines to an inch, and as much in its antero-posterior diameter. Its anterior portion ceases to constitute a part of the perineum, being formed by a transverse fold, flattened from above downwards, and slightly concave in front, where it terminates in a thin edge which is continuous from before, backwards and upwards, with the mucous membrane of the vagina, and downwards with the skin covering the perinæum. This fold consequently leaves above it a small cavity corresponding to the posterior portion of the opening of the vagina. The small triangular surface above it is the *fossa navicularis.* When the space between the arms and vulva is very broad, this fold sometimes projects many lines; but when the interval is narrow, it is scarcely visible. The broader the perinæum, the shorter the vulva, and *vice versa.* The breadth of the perinæum and the shortness of the vulva does not, however, diminish the extent of the vagina. The rupture of this fold is common in childbirth, and of secondary importance;—that of the perinæum is rare. It may be cut in surgical operations, without danger of implicating the perinæum; and thus, what is often an important impediment to the operation, may be removed. A correct knowledge of this fold is of importance in performing amputation of the uterus, and in introducing the speculum.

The anatomy of the labiæ we may pass over, as well as that of the urethra. The situation of this outlet is not always the same. Lisfranc has seen it opening, in a small red tubercle, upon the mons veneris.

The anatomy of the *vagina*, and particularly its connection with the uterus, at its upper part, is a more important subject of study, since upon this depends the expediency of Lisfranc's operation of extirpation of the uterus. Upon his superior knowledge of the structure of this part, L. bases his claims to a successful performance of the operation.

Although the vagina is small near its orifice, its superior third is dilated to an extraordinary degree, so that it can be pushed back freely in all directions, oftentimes against the walls of the pelvis. If the canal were cylindrical, the finger, on reaching its extremity, would be unable to ascend higher and examine the body of the uterus, and the physician could only examine by the rectum and hypogastrium. On the contrary, the upper third of the vagina is enormous, and affords opportunity for examining at least the lower third of the uterus. The posterior and lateral walls of the vagina are in immediate connection with the peritoneum, so that a perforation here would communicate with the cavity of the abdomen; in front, the fundus of the bladder would be opened.

The idea that long prevailed, that the attachment of the vagina about the neck of the uterus was annular, Lisfranc says is erroneous, and has nearly caused the rejection of an operation which he has performed with great success. From

fear of penetrating the peritoneal cavity, surgeons amputated the neck of the uterus very near to its lower extremity; and the disease not being eradicated, generally returned. Lisfranc observes, that he has shown that the insertion of the vagina upon the neck is much broader. On measurement, in more than one hundred cases, its width was found to vary from six to fifteen lines, and the least distance from the inferior part of the neck to the peritoneum was nine lines in front and ten behind. This discovery, he says, has enabled him to excise, without fear of accident, three quarters of an inch of the uterine neck, still leaving the insertion of the vagina sufficiently strong to bear the weight of the viscera. Disease, by increasing the dimensions of the neck, enlarges the insertion of the vagina, and hence the pathological condition of the parts is more favourable than the healthy, for the operator. The lecturer and the editor, we may observe, do not altogether coincide in regard to the anatomy of this part, as they do not with regard to the value of the operation. The description of the uterus and of anomalies of the genital organs, we must pass over and come to the second chapter.

This chapter is occupied with the modes of examining the internal organs. These are two: the touch and the use of the speculum. Minute directions are given for examinations per vaginam, &c., which are worthy of attention. With regard to the speculum, Lisfranc approves of its use, provided it be employed in urgent cases only. But it is an unyielding voluminous instrument; its introduction is frequently painful and an additional source of irritation. Previous examination by touch is necessary. Ample directions will be found in this section in regard to the circumstances under which it may be employed, and the method of using it.

Part II, embraces the "Diseases of the Uterus, generally." The, editor following (as we understand it) the arrangement of Lisfranc, considers them as connected by so many common characteristics that it is indispensable, at first, to treat of them collectively—to sketch a general outline to be afterwards filled up. This arrangement we consider objectionable, and it proceeds from what we think an error in the views of Lisfranc; this is, the regarding nearly all diseases of the uterus as the result of inflammation, or sub-inflammation of this organ. This idea pervades the volume, and is the foundation of all his plans of treatment. We find, in this part, an account, 1st, of the pathology and anatomy of the uterus, observed upon the dead subject; 2d, of the principal causes of uterine affections; 3d, of their symptoms and progress generally, and of their prognosis; 4th, of their general treatment; 5th, of the selection of remedial agents and their mode of employment; 6th, of diseases which may complicate affections of the uterus in their different stages.

Among the causes of uterine disease abortion is alluded to, and the inquiry arises, to what is it attributable, or in what manner does it act as a cause of disease? It is most probable, as is suggested, that it is produced by a diseased state of the uterus antecedent to fecundation, and that this state is aggravated by the exertion of expelling the fœtus. The whole course of pregnancy also, though it may for a time mask and perhaps retard the progress of the disease, must eventually increase it in a very great degree, unless the affection is of a mild character, and of such a nature that it may be removed by conception acting as an alterative. It is remarked that those who have cancer of the uterus have generally aborted one or more times.

In section third, on the symptoms, etc., of uterine disease, attention is called to the first appearances of affection in this organ. If there is difficulty in France in ascertaining the existence of uterine disease at an early period, the difficulty is much greater among us. It is not easy to induce patients to observe and to communicate with accuracy the early symptoms of disease—such as the appearance, quantity, and constancy of the discharge, etc.—when they are not convinced that they have a disease of any important character. The following are the first evidences of an affection of the uterus mentioned in the work under review. The first indication of local affection is an occasional slight metrorrhagy, most commonly without pain. At other times the discharge is white,

and persists during the interval of the catamenia. The breasts swell slightly, occasional pains are felt about the loins, especially after walking or riding. In standing there is an uneasiness, a bearing down in the pelvis, a dragging sensation in the loins which fatigue the patient so much that she is obliged to sit down. Coition is occasionally followed by a little blood and by an uneasiness or nervous erethism which renders it highly repugnant. As the disease advances, the pain and other symptoms increase, the nervous irritation becomes excessive, and produces paroxysms of hysteria. To these symptoms are added those that belong to the character of the particular affection. We may remark here that, as we have before said, Lisfranc considers the origin of all diseases of this system to depend upon sub-inflammation. Most of the sensations described are those which belong to that affection which has been designated as irritable uterus, and considered rather a nervous disorder than as an actual disease—a functional rather than an organic lesion. We are told in the volume before us that the views of Lisfranc are the results not merely of theory, but of long experience—still the experience of a surgeon is different from that of a physician—organic lesions are more within his province, and he necessarily sees more of them than of functional. Inflammation is a chief agent in the productions of the various affections which require his aid; and he is naturally led to believe it to be at the foundation of nearly all disorders.

Lisfranc believes the cases to be very rare in which uterine disease disappears of itself, without treatment. Most generally, if not arrested by medical interference it terminates fatally. Cases of insidious disease of the uterus he considers frequent. He is in the habit of meeting annually with twenty or more such cases. The complaint progresses silently and secretly, the symptoms being very slight, and the patient remains in good condition, with a fresh complexion and all other marks of health. Her power remains unimpaired as long as neither pain nor fluxes interfere to crush them. These become suddenly developed, violent pains occur and prevent the possibility of sleep, hemorrhage succeeds hemorrhage, the digestion fails, the feebleness increases astonishingly, the skin becomes dry and dirty, and colliquative diarrhœa terminates the scene.

The principal symptoms of uterine disease, as laid down in this volume, are these: a white discharge, nervous pains and phenomena, metrorrhagies, reaction upon the mammary glands producing swelling of those parts, and sympathetic gastro-enteritis. With regard to the discharge, it is remarked, that a yellowish white, thick, and well-formed pus pretty generally indicates acute and recent inflammation of the mucous membrane, and nothing more. The breasts enlarge in the early stage of uterine disease, but at a later period they diminish in size and lose their firmness. The symptoms enumerated indicate disease of the uterus, but none of them indicate its character.

Section fourth is upon the general treatment of uterine diseases. From what has already been said of the opinions of Lisfranc with regard to the general nature of uterine disease, we may readily divine that his principal treatment must be antiphlogistic. The chief indications are stated to be, 1st. To remove irritation present in the uterus and its appendages; 2d. To quiet pain; 3d. To divert elsewhere the determination to the uterine system; 4th. To dispel congestion already existing; 5th. To prevent relapse.

General bleeding is considered by Lisfranc as the remedy of greatest importance. He considers it as one of the most appropriate means of diminishing irritation in the uterus, and as affording great relief to the pain, which, of all the symptoms, demands most attention. Lisfranc, however, does not approve of local bleeding. His views and those of many French surgeons are different from those which prevail among us and in England, with regard to this as well as other local remedies. Leeches or cupping or local baths are considered by them to promote congestion in the neighbourhood to which they are applied. Thus it is common in France to apply leeches to the feet where the head is affected. Lisfranc observes that leeches are applied upon the pelvis, in order to congest the uterus and recall the catamenia. It is hence improper to apply them where the object is to remove congestion and inflammation. In like manner hip baths

produce congestion, and are hence improper in a similar affection. The same remark applies of course to cupping as to leeches. Lisfranc observes that whenever he has been called in consultation he finds that these local measures have already been resorted to, and asks whether surgeons do not act unadvisedly in following a routine practice. Lisfranc brings the weight of his experience as proving the bad effects of this course and the favourable results of a different one. When one has a theory to support, however, or, what is the same thing, when he has adopted certain principles, he is very apt to make the results of his experience conform to them; so that these results should be received with some caution. The views of the surgeons whom Lisfranc refers to, are probably better founded than his own. They might reply, how can the application of six leeches, for example, upon the pelvis produce congestion in any organ so deep seated as the uterus? or how, indeed, can so trifling an action upon the superficial vessels affect the deep-seated ones? In cases of bruises or sprains we employ cupping or leeches applied as near as possible to the injured part, not merely with a view of producing congestion in the part, but, on the contrary, of unloading the vessels and allowing them to recover their tone. These are so frequently employed, that if either a small or a large number of leeches produced congestion and increase of pain, their use would very soon be abandoned. We know on the contrary, by every day's experience, that they afford great relief. The fact is, that local blood-letting acts only upon the superficial veins, and does not affect the deep-seated vessels. Local baths in like manner act upon the superficial vessels. They withdraw the action from the deep-seated parts to the surface. They stimulate the activity of the cutaneous vessels, and in this manner tend to relieve the congestion of those within. But though we deny the prejudicial effects of local treatment, we do not affirm that general blood-letting and baths may not in many cases be more beneficial. The local measures, however, are often applicable where the general ones could not be practised. While upon this subject we may state that Lisfranc does not deny their utility in some instances. Where the disease is of a chronic character he considers it sometimes desirable to promote congestion as a stimulus. For this purpose he employs local bleeding and baths.

Let us now consider his views upon general venesection. Venesection from the arm, it is said, is essentially revulsive, because it empties the uterine vessels. Depletive bleeding is seldom employed, unless the uterine action is so acute as to determine general reaction. The quantity of blood drawn in a revulsive bleeding varies from one ounce to four and even six ounces, according to the patient's strength. Four ounces would be revulsive in one not exhausted by previous sufferings, but it would be depletive to patients in the opposite condition. A small bleeding from the arm does not impair the patient's strength; it determines the blood to the supra-diaphragmatic region, and acts as a revulsive to the pelvic organs. These are the principles upon which Lisfranc employs blood-letting, as explained to us by M. Pauly. For the proper time for its performance and other particulars in regard to it, we must refer to the volume itself. These revulsive bleedings are, of course, frequently repeated.

Bathing is considered by Lisfranc as a valuable antiphlogistic remedy; but for this purpose it must be prolonged. A bath of from half an hour to an hour is a stimulant instead of an emollient; he therefore enjoins his patients to remain in the water from two to three hours, or even four, five and six hours, according to the effects of the bath and the strength of the patient. To avoid the wearisomeness when a bath of six hours is required, he divides it into one of three hours length in the morning, and one of the same duration in the evening.

Repose.—The observations on this subject are well worthy of attention. Absolute repose, in many diseases of the uterus, is considered essential by most practitioners. There are, however, some exceptions to the general rule. There are many women who cannot bear strict confinement—the nervous system becomes deranged—the digestion is disordered, and hence, as our author observes, all the symptoms become aggravated. It is, therefore, not only better, but absolutely essential, to allow the patient gentle and regular exercise. Absolute

rest must, however, be enforced as a general rule. Whenever walking causes pain, Lisfranc says, the rest of the treatment will be of no avail, unless the patient be subjected to perfect repose. Repose (in the day time) should not be taken in bed, for this heats and congests the pelvis; the patient should recline, not sit, upon a couch, and should be carried to and from bed. Upon the other particulars of treatment we need not dwell. The editor, at the end of this section, has furnished a formula by which, he tells us, Lisfranc generally commences treatment, and which he has himself distributed, or seen distributed, for nearly three years at the weekly consultation at La Pitié, under all circumstances except incurable cases. We can hardly recommend any formula, however sound the general principles may be on which it is founded, for the treatment of any class of diseases. Nor do we think that many authors will agree with Lisfranc in uniting uterine affections so closely, as the above remark shows that he has done.

For *pruritus* of the vulva, a small revulsive bleeding from the arm has often, it is said, a surprising effect; and this may be aided by a bath or by lotions. Lisfranc has always found it yield to a sulphurous fumigation.

Part III, is occupied with Menstruation, Leucorrhœa and Hysteria.

In cases where a number of years have elapsed beyond the proper period for the establishment of the catamenia, without their appearance, and the patient suffers from their absence, Lisfranc has found it of benefit to imitate nature, and supply the deficiency by small bleedings at the monthly periods. Dysmenorrhœa he has observed to be almost always hereditary.

Hysteria Lisfranc considers to consist most frequently in an irritation or slight inflammation of the uterus, combined with nervous phenomena. Occasionally, he allows it to be a simple neurosis. He has always found the uterus in hysterical patients, tender to the touch and in a state of turgescence, combined with hypertrophy.

Part IV, embraces the consideration of uterine affections, properly so called—Hysteralgia, erythemata, engorgement, amputation of the uterus, foreign bodies and the use of pessaries.

Hysteralgia, Lisfranc regards as sub-inflammation, unaccompanied by engorgement or by any other appreciable lesion. The treatment he employs is of course antiphlogistic, to which he adds narcotic remedies. But when it has become chronic, cupping and temporary blisters are applied about the pelvis; and douches at first externally, and afterwards with the jet directed upon the cervix itself. The cases which are given, however, form exceptions to the antiphlogistic course, for they were benefitted by quinine and by the acetate of ammonia; they were considered and treated as of a nervous character. Would it not be better, then, to confine the appellation—hysteralgia, to affections of this latter character, and give another appellation, if need be, to the sub-inflammation of the uterus? Whatever weakens the system, increases the irritability of this organ; and hence we shall generally find venesection and antiphlogistics increase, instead of diminishing the patient's sufferings.

Upon the success of Lisfranc's operation of amputation of the uterine neck, the editor, as we have already mentioned, differs seriously from his principal. We need not enter, however, into the details here, they having been given on a former occasion. (See the Number of this Journal for November, 1837, p. 179.)

In displacement of the uterus, Lisfranc has never employed pessaries as a means of cure. Though applied to daily, he has never failed, he says, in effecting a cure without mechanical means. He attaches not the slightest importance to it as a guide in the treatment, but regards it merely as a symptom of engorgement. Resolution of the engorgement is the first object, after which the organ returns to its place. In cases of a strongly marked chronic character, he thinks pessaries may be tried; but even here, they often cannot be tolerated.

We have been pretty free in the expression of our opinions, where we have differed from those given in the volume before us; but the greater the reputation of a practitioner, the fairer subject is he for criticism, and the more important is it to call attention to such of his principles as may be erroneous, or are even

doubtful. No one, however, can receive with indifference the opinions of such a man as Lisfranc. We esteem this book as a highly valuable one. We find in it much valuable matter that we cannot meet with elsewhere; its size, moreover, renders it readily accessible to the profession. The work of the translator has been ably performed. Dr. Lodge's residence in Paris and his familiarity with the French language, have qualified him well for the office he has undertaken. It is no slight recommendation of a translation to say that it is thoroughly English. E. W.

ARTICLE XVII. *A report on the History and Causes of the Strangers' or Yellow Fever of Charleston. Read before the Board of Health.* By THOMAS Y. SIMONS, M. D., Chairman of the Board. Printed by order of the Board: Charleston, 1839, 8vo, pp. 23.

THIS is an interesting report, and we shall glean from it the principal facts which it furnishes.

The first appearance of yellow fever in Charleston was in 1690 or 1700. It has since occurred in 1703, 1728, 1732, 1739, 1745, 1748, 1753, 1755, 1792, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1802, 1804, 1807, 1817, 1819, 1824, 1827, 1828, 1830, 1834, 1835, 1838 and 1839. It will be perceived from this statement, that its visitations are exceedingly irregular. It prevailed with most violence in 1728, 1732, 1739, 1792, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1802, 1804, 1807, 1817, 1824 and 1838; a few cases occurred in 1803, 1805 and 1806, but the disease was not prevalent. The visitations of the disease have extended from July to November, but it was most rife in August and September.

The following table, constructed from data furnished in the report, exhibits the whole mortality of the disease, with the class of the population who were its victims, from 1817 to 1839 inclusive.

Year.	Total deaths.	ADULTS.			Strangers' children.	NATIVE CHILDREN.			BLACKS.		
		Male.	Female.	Total.		Under 14.	Between 14 and 18.	Total	Male.	Fem.	Total
1817	268	164	56	220		41	7	48	14	5	19
1819	172	130	24	154		11	1	12*	3	2	5
1824	236	160	32	192		33	3	36†			
1827	63	40	3	43	6	10	4	14	2	0	2
1828	26	21	3	24	1	1	0	1			
1830	29	23	1	24	4	1	0	1			1‡
1834	46	28	10	38	5	1	0	1			
1835	26	16	5	21		4	0	4			1‡
1838	353	281	30	310	11	16	1	17		4	4
1839	134	104	14	118	7	4	4	8		1	1

Dr. Simons invites attention to the small mortality among children from yellow fever. It will be seen from an examination of the preceding table, that the mortality under fourteen years of age is small compared to the whole mortality from the disease, and between fourteen and eighteen years of age still smaller; and Dr. S. asserts that natives over eighteen years of age are not known to sicken or die of the disease. Hence Dr. S. condemns the habit of some parents of estranging their children from the climate, from the fear of their taking

* Stated by Dr. S., in another place, p. 7, to be 18.
† Stated on p. 7 to be 44. ‡ Sex not stated.

the fever and dying. "If," he asks, "it is intended that their children shall live in a warm climate and in southern cities, why estrange them and render them more liable to the disease in adult age, when they are compelled to expose themselves to greater exciting causes?" This inferior mortality of the disease in children was also observed by M. Louis, to have occurred in the epidemic of Gibraltar of 1828.* Another fact is stated by Dr. S., which is also in accordance with the observations of M. Louis, viz. that the disease is less fatal among females than males. It will be perceived on reference to the table, that the mortality among the white males was more than five times as great as among the females. It is not a little curious that this does not hold true among the blacks. The numbers are, however, small, and the difference may be accounted for by circumstances with which we are unacquainted.

The fever of 1839 commenced earlier than usual. "On the 7th of June, three patients were admitted into the Marine Hospital, from the ship Burmah, which had arrived from Havana, of which I was informed by the physician of that institution. The pilot, contrary to the requisitions, that all vessels having sickness on board, should be brought to quarantine, improperly brought in this vessel. The remainder of the seamen on board, that were sick, were sent to the Lazaretto, and the ship was thoroughly cleansed and ventilated, being in ballast; she was in the stream, and did not come to the wharf for some weeks after, and had no communication, as far as could be ascertained with other vessels. On the 17th and 19th, cases were admitted into the hospital from the ships Chatham, Leonore and Elizabeth Bruce. The Chatham and Elizabeth Bruce were lying at Fitzsimons' wharf; the Leonore was lying in the stream, opposite these vessels, and had never been to the wharf; the Burmah was lying in the stream off Roper's wharf; the distance from each of the vessels was therefore considerable, and there were a great many vessels between, on board of which no sickness had as yet occurred. The Chatham arrived here from Boston, on the 5th of June, in ballast; the Elizabeth Bruce arrived in Charleston, from New York, the 7th of June, in ballast: and the Leonore sailed from Boston, and arrived on the 7th of June, in ballast—all of the crews were well. Subsequently, the disease occurred in different vessels in the harbour, which it would be unnecessary here to detail. Soon after the cases of the Burmah had occurred, a proclamation was issued by the mayor and council, requiring all vessels, arriving from infected ports, to be brought to quarantine: the vessels were there brought, their cabins cleansed, their holds ventilated, and their rotten fruit destroyed. No single case of fever arrived from the West Indies, or otherwise, in the city, that I am aware of, after this arrangement.

"The fever having occurred so early in the season, and so soon after its occurrence on board the Burmah, created suspicion of contagion in the minds of some, but I could not, upon the minutest investigation, come to that conclusion: and a committee,† appointed by the Medical Society, after making a minute and thorough investigation, came to the conclusion that the fever was not introduced by the Burmah, or by contagion, but was produced by the peculiar condition of our atmosphere; in other words, was endemic, and arose from causes among us.

"The following extracts I have taken, with the approbation of the chairman, from the report:

'By an examination instituted through reference to the captains and mates of the various vessels, whose information was given from the log books, your committee have ascertained that they had, at the time of their sailing from the different ports, viz: Liverpool, Boston, and New York, for this port, perfectly healthy crews, with sound cargoes, incapable from their character of generating foul air. That there was no malignant disease prevailing at the time of their departure; that their crews had not, while in this port, any communication, either direct or indirect, with the Burmah or her crew: and, finally, that

* See p. 292 of this Number.

† The Committee consisted of Dr. A. Lopez, chairman, Drs. James Moultrie, E. Geddings, J. M. Campbell, Henry Winthrop, and the president, J. E. Horlbeck.

that ship, in all these instances, lay in the stream, from a quarter to half a mile from them, except for a short period, of which mention will hereafter be made.' —p. 5.

"Again: 'The presumption is thus fairly induced, that the cleansing and ventilation must have disinfected her (the Burmah) sufficiently of her foul atmosphere for purposes of safety, *else why none other of her crew remaining on board* THENCE TO THE TIME OF HER DEPARTURE FROM OUR PORT, CONTRACT THE DISEASE?'—p. 7.

"Again: 'Thus far your committee have satisfied themselves, that the transmission of the fever through the agency of the Burmah, is neither tenable as to fact, nor in accordance with the opinions of a great majority of the medical profession in this country," &c. &c.—p. 8.

"Again: 'Your committee therefore are of opinion, that the Yellow Fever which has prevailed, and still continues this season, has its origin, not from contagion derivable from those cases imported in the ship Burmah, on the 6th of June last, but from local and general causes.'—p. 10.

"It must be here remarked, that the month of June was uncommonly hot; and the whole of this summer was remarkable for the great drought, as well as high temperature. All our southern country experienced the same weather, and the principal cities south of Charleston have been invaded with Yellow Fever. At the latter portion of this year, a fever of the duration of twenty-four to forty-eight hours, affecting the head, the jointst the spine, very severely, occurred among natives and strangers; and as soon as it began to prevail, the Strangers' Fever diminished: this fever resembled the Dengue, and from the intense pain in the joints, was commonly called the Broke Bone Fever. It in no instance proved fatal.

"I have been thus particular in the history of the commencement of the disease this year, because from the coincidence of circumstances, it might be supposed that the fever prevailed either by infection or contagion."

Disbelieving, for the reasons just given, that the disease was introduced by importation, Dr. S. next proceeds to inquire, what were the causes of the fever?

As a preliminary to this inquiry Dr. S. offers the following observations: "Wherever Strangers' Fever occurs, the heat is extremely high, ranging 85 degrees on an average in the twenty-four hours, and sometimes higher. But altitude of temperature will not alone produce it, or any fever, it must be associated with moisture, at least such is my opinion, and Baron HUMBOLDT gives this as the result of his observations in South America. From meteorological observations it would seem that sometimes the disease occurs after heavy rains, and in many cases where there is great want of rain, as this season for instance, and a high temperature. Now many would be induced to suppose that the atmosphere from the want of rain is dry. But this is not so, our meteorological observations give us but little light on this subject, but from my own observations, I have remarked that the dews are heavy and the air chilly at night, and that cloths and leather become mouldy. Brasses can hardly be kept clean, and steel quickly rusts. The continued solar influence in the surrounding water causes an immense evaporation, which ascends high, and after the sun declines, begins to descend in the form of dew, in which I believe malaria floats. There is another fact, that in seasons when Yellow Fever prevails, there is very little of thunder and lightning."

Dr. S. next considers the local causes, and first the docks and wharves. The latter, he states, "are formed by the palmetto logs, and filled up with wood, stone and earth. In the docks a great deal of mud, with decomposed vegetable and other materials, are thrown up by the tide, and at low water the exhalations are offensive, independent of this in some wharves the drains pour out their contents. Now this condition of things, with the fact, that Strangers' Fever most generally occurs among the shipping, has induced many to believe it arises from this cause. That it may like others be a predisposing cause, for all offensive effluvia of this character must depress the nervous system and lessen the vital powers to resist morbid impressions, is highly probable, but it cannot be the active cause, for if it were so, Yellow Fever should occur every

year, which is not the case, and the same may be said in relation to the drains and other local causes as the formation of new streets. It is very probable that other causes than the condition of the docks contribute to the disease occurring first among seamen."

With regard to marsh miasma as a cause, Dr. S. remarks: "From the old maps it is evident that Charleston was intersected by marshes and creeks, which are now filled, and houses built thereon. At present the city is surrounded by marshes, through which the salt water ebbs and flows. But we find that the islands (Morris and Sullivan's), on which are extensive marshes, have been considered safe retreats from the influence of this disease; and in Hampstead, the settlements near the marsh have been regarded as equally exempt; the fevers also which occur in certain situations of Sullivan's Island, and near the marshes, are obviously distinct in character from the fever in Charleston, and likewise it may be said of the fevers in the country. It has been supposed that these fevers are mere modifications of each other; but this I regard as a mistake. The diagnostics between them I will give, merely with a view of sustaining the position that yellow fever is endemic to warm climates; where there is also the dense population of a city, and that it differs from the fevers arising from marsh miasma where there is not a city population. The yellow fever has but one paroxysm, which lasts from two to three, and sometimes four days—that is to say, the fever is continued until then; it then subsides, or rather ceases, and new symptoms present themselves. If the case is bad, black vomit ensues at this time—which is a very bad, though not always a fatal symptom; or the patient dies without it, generally, on the fourth or fifth day, although it is sometimes of longer duration; or the individual becomes convalescent. Again: once having the yellow fever, like the small pox, the individual having it is not liable to another attack, as a general rule, for there are some exceptions, although rare in both cases, while of the fevers contracted in the country, one attack in place of causing exemption, renders the individual more susceptible and liable to another. Although the marsh miasma cannot be considered as the essential cause, yet it cannot be doubted, where the tide is but partially flowed, intermingling salt with fresh water, and becomes stagnant, a very noxious exhalation, injurious to health, must result. There is, besides, another evil. Small houses are erected on some of these tide lots, which are but partially filled up, and then oftentimes with heterogeneous materials, is not only a serious nuisance, but must necessarily be deleterious to health. Another circumstance I may here mention, is worthy of consideration, viz. the disposal of the offals of our city. It is obvious, that if the law requires the citizens to remove all the rubbish and offals from their residences, regarding them as nuisances, the concentrating them upon one spot, for the purpose of filling up streets made on our marsh lots, must be infinitely more pernicious and injurious, as well as improper.

"How far some of the causes I have mentioned operate in producing fever, it is not my intention at present to discuss. I shall only remark, that there is a peculiar condition of the air, independently of the causes already mentioned, for these causes exist every year, but do not produce the disease regularly. The exact nature of that condition of the air we do not understand; it has as yet eluded the researches of philosophers, chemists and physicians, and may prove beyond the ken of human wisdom to discover. The nature of malaria and the laws of epidemics, are puzzling problems in medical research; we have had many speculations thereon, but nothing proved as yet. Thus far we do know, however, that a city asmosphere is necessary to generate yellow fever; and it is a wise system of medical police, that all causes which may, by a possible contingency, prove agents in producing disease, should be removed. Hence the cleansing of the docks at a proper season, the preventing of exhalations from the drains, and the clearing them out in the winter season, or when necessary; the carrying of scavengers' offals beyond the precincts of the city, or obviating their deleterious influence by preventive means; keeping the streets, as well as the yards, clean; draining and filling up low lots; having all the cellars kept dry, and properly ventilated; prohibiting of any more cellars; burying the dead be-

yond the precincts of the city; and the introduction of a plentiful supply of pure water; these measures, if they can be accomplished, constitute, in my opinion, judicious and important preventive means; and having thus used all human means, according to our finite attainments, we must leave the rest to a supreme and higher power."

The conclusions at which Dr. S. has arrived as to the causes of epidemics, as expressed in the preceding quotation, are sound ones. Those causes have as yet escaped our researches.

ARTICLE XVIII. *A Report on the Origin and Cause of the late Epidemic in Augusta, Ga.* Submitted to a meeting of the physicians of Augusta on the 10th December, 1839. Augusta: 1839, pp. 30.

THIS report was drawn up by a committee, consisting of Drs. F. M. ROBERTSON, J. P. GARVIN, and P. F. EVE, appointed at a meeting of the physicians of Augusta, to inquire into the origin and causes of the late epidemic in that city. This committee appear to have performed their duties zealously, industriously, and in good faith; and this merit must be accorded to them even if conviction be not yielded to the correctness of *all* their conclusions. They were appointed to make a discovery, and they seem to have set about it with a determination to effect it, in full confidence of success, and without any suspicion that the object after which they sought might be one of those which have hitherto eluded all human research.

The committee commence with an examination of the question, whether the epidemic was introduced from foreign sources; and after disproving the various explanations offered of its introduction, and showing that it was not of a contagious nature, they next discuss the local causes to which it has been ascribed; and finally, point out that to which they think it owes its origin. This was a large accumulation of vegetable and animal matter at the upper "trash wharf."

They state that in April, 1834, the street committee was authorised "To have made a slide or platform, on the river bank, for the purpose of throwing the dirt and rubbish collected by the street officer, clear of the bank into the river. The platform was erected on piling; it projected one hundred and ten feet into the river, from the edge of the bank, and was forty-five feet high, from the bed of the river. The street officer's carts, laden with all the animal and vegetable matter, collected from the different lots and yards of the city, daily, were drawn to the end and sides of this platform, and emptied into the river. The dead animals found in the city were also thrown from the same place. Thus commenced this accumulation in 1834. The street committee, for some time after the construction of the work, was in the habit of having this collection cleared away, down to the water's edge whenever it accumulated above it. This precaution was, however, finally neglected, and an old boat lodged against the work, which prevented the water from sweeping under the platform, and the mass was suffered to accumulate to upwards of 200,000 cubic feet, when it attracted the notice of numerous citizens and the city council. It had arrived to such a height that the workmen, who commenced levelling it in May last, could step from the platform on to the mass."

In April, 1839, the committee on the river bank and wharf were instructed "To have the trash in front of the street officer's wharf removed, and make arrangements to prevent its accumulation there in future. On the 4th of May following, a contract was entered into with Mr. Spencer for the performance of the work. On the 8th of the same month, he commenced operations, and finished on the 29th. The removal was only partial. It consisted in levelling the mass by horizontal sections, and throwing it into the river as far as it could be done. A further levelling was made by the same individual between the 26th of June and 2d of July. During the operation of the workmen on the mass, as they penetrated deeper into the interior, *the heat evolved was so great that they were*

compelled to desist from their work, for two hours at a time, so as to suffer it to cool sufficiently to enable them to resume their labour, although they wore thick shoes.

"After the operations, under the direction of the river bank committee had ceased, there still remained, of the original accumulation, exposed to the influence of the sun, upwards of 117,000 cubic feet, which had been concealed by the superincumbent mass for years, and now, for the first time since its deposit, saw the light of day."

The committee remark, that did the limits of their report permit, they "could cite numerous instances in which similar accumulations have produced the most malignant forms of fevers." This will certainly not be questioned, and if the epidemic had been a malignant remittent, or intermittent fever, the mass of filth described would be regarded as fully competent to its production. But the committee at the commencement of their report, state, that though the nature of the late epidemic was not included in the investigations assigned to them, yet they deem it important to say, "that the medical practitioners of the city are *almost* unanimously of the opinion, that it was *yellow fever*." It is greatly to be regretted that the committee did not enter into this investigation, and furnish the facts upon which the opinion they express, as to the nature of the epidemic, was founded, and this would appear to be the more necessary, since the report itself contains some statements not entirely favourable to that opinion. Among others we may quote the following:

"About the 8th of June, several severe cases of fever occurred in Mrs. Thomas Gardiner's family, at her residence, fronting on the river bank and Lincoln street. *They were considered, at the time, as cases of ordinary remittent fever.* But, as the family had, in previous seasons, been exempt from diseases of this nature, at so early a period, and as facts, in another part of this report will clearly show their origin, your committee feel no hesitation in stating the belief that these cases arose from the same cause, though in a less virulent state, that produced the prevailing epidemic."

That the same miasm which produces remittent fever can, in its more virulent state, excite yellow fever, or, indeed, that this last is of paludal origin, is what, in the present state of our knowledge, we certainly are not justified in admitting.

The subject requires and perhaps admits of some further elucidation, and we trust that one of our correspondents will furnish us with such facts as may tend to that purpose.

ART. XIX. *Report of* THOMAS LAWSON, M. D., *Surgeon-General of the United States Army, communicated by the President to the two Houses of Congress, at the Commencement of the First Session of the Twenty-Sixth Congress.* Washington: 1839.

THIS is an extremely interesting document, and we take pleasure in inviting attention to it.

The whole number of cases under treatment during the year ending 30th September, 1839, was 22,849; of this number, 22,248 were new cases, and 649 remained from the preceding year. Of the whole number of persons reported sick, 21,940 have been restored to duty, 131 have been discharged the service, 55 have deserted, and 214 have died, leaving on the 30th September, 1839, 909 still on the sick report.

The following table shows the prevalent diseases, and their respective mortality.

DISEASES.	No. of Cases.	No. of Deaths.	DISEASES.	No. of Cases.	No. of Deaths.
Intermittent Fevers	3761	6	Catarrh	1908	0
Remittent Fevers	756	45	Cynanche	266	0
Synochal Fevers	97	0	Cholera	206	0
Typhus Fever	13	6	Colic	340	0

DISEASES.	No. of Cases.	No. of Deaths.	DISEASES.	No. of Cases.	No. of Deaths.
Acute Bronchitis	107	0	Gastritis	79	3
Pneumonia	104	7	Enteritis	36	4
Pleurisy	171	1	Diarrhœa	1462	26
Phthisis	70	22	Dysentery	1188	20
Hepatitis	52	0	Nyctalopia	53	0
Rheumatism	1029	1	Dropsy	28	7
Ophthalmia	329	0	Scorbutus	111	6
Gonorrhœa	374	0	Ebriety	354	7
Syphilis	269	1	Hernia	33	0
Epilepsy	53	4	Wounds and Injuries	2377	13
Apoplexy	5	3	Ulcers and Abscesses	1077	3
Delirium Tremens	43	6	All other Diseases	3683	23

"From the monthly returns and other reports it is estimated," says Dr. L. "that the aggregate mean strength of the army for the last year was 8950; and as the number taken sick during the year was 22,248, and the aggregate of deaths was 214, it will appear that the proportion of cases of disease to the number of men in the service, was as $2\frac{1}{2}$ to 1 or 249 per cent.; the ratio of deaths to the number of men as 1 to 42, or $2\frac{4}{10}$ per cent.; and the proportion of deaths to the number of cases treated as 1 to 107, or a fraction less than 1 per cent."

This is an extremely small mortality, and will be the more striking if we compare it with that in the British army. Mr. Marshall,* Deputy-Inspector General of Army Hospitals, gives the following as the ratio of deaths per cent. of the mean strength in the commands subjoined.

Station.	Period of Observation.	Ratio per cent.
Ireland, - - - -	32 years, from 1797 to 1828,	1.5
Bengal, - - - -	9 years, from 1816 to 1824,	5.5
Madras, - - - -	do. do. do.	5.6
Bombay, - - - -	do. do. do.	4.3
Windward and Leeward Islands,	19 years, from 1810 to 1828,	11.3
Jamaica, - - - -	do. do. do.	15.5

The troops which have taken the field from southern stations, have suffered less from sickness, Dr. L. states, and lost fewer men by disease since they came into Florida, than while they were stationary at their posts. "Nor have the corps," he adds, "from the north suffered from disease and death to the extent that is generally believed."

"The reports in this office from every section of the United States show this result, and as I am satisfied of the fact, I deem it to be my duty to correct an error of opinion that seems to pervade the country, to the manifest injury of the military service." In illustration of this, the following table is given:

"*Table showing the relative proportion of disease and mortality among the troops serving in Florida and those stationed at the prominent posts in other districts of the United States, during the year terminating the 30th of September*, 1839.

District of observation.	Mean strength.	Cases.	Deaths.	Ratio of mortality, per centum of mean strength.	Proportion of deaths to the number treated.
North and east,	1,900	4,787	37	2	1 in 129
North-west,	1,220	2,762	11	0.9	1 in 251
South-west,	1,461	4,622	65	4.3	1 in 71
Florida,	3,092	6,510	73	2.4	1 in 89

* Edinburgh Med. and Surg. Journal, Oct. 1837, p. 318.

"With the view to attain the nearest approximation to a correct result in regard to the climatorial influence of different regions of our country, all deaths that come under the class of casualties, have been excluded in this table. As the quarterly reports of sick in Florida include, independently of the regular troops, a few volunteers, sailors, and labourers employed in the Quartermaster's department, it has been found, in a few cases, impracticable to make an exact separation. The deaths given, however, are entirely confined to the regulars. In regard to the invalids sent out of Florida, it is ascertained that the ratio of mortality is not materially affected from this cause; for, during the present year, no more than fifty-four were carried to the north; and of these, two only, one of whom was excessively intemperate, died."

The high standard of merit required for admission into the medical staff has been, it is stated, rigidly enforced.

"Two junior surgeons, whose examination for promotion had been unavoidably deferred, and three assistant surgeons of five years' standing, were ordered to present themselves, and thirty-six applicants for appointment to the medical staff of the army, were invited to appear before the medical board lately in session at New York. The surgeons and assistant surgeons having undergone a thorough examination upon all the branches of medical science, and received a favourable report from the board, the first two were sustained in their advanced position, and the last three rendered *legally* qualified for promotion. With the candidates for admission into the army, however, the result of the examination was very different. Of the thirty-six who were invited to appear before the board, twelve declined the examination, (two after having reported to the board,) two were excluded on account of their age, and twenty-two were examined; and of these last, five only were found to possess all the qualifications essential to an appointment.

"It may be that we have erected too high a standard of merit—that too much is exacted from the human intellect; we are not conscious, however, that more has been asked than ordinary talents, a good primary education, and the actual study of the science of medicine can attain. At all events, some few have reached the highest scale of excellence; and while as many of these choice spirits can thus be secured, as will fill our ranks in each succeeding year, we shall not relax in our requirements upon those who claim to be admitted into the medical staff of the army.

"But to account for the humiliating results of the examination on the present and on former occasions, we have only to look to the system of education which now obtains in the country.

"The facilities of acquiring medical knowledge, or rather of becoming professional men, are so great, that many persons are seduced into an attempt to become physicians, without the basis of an education. There are others again, who, having received a good primary education, and also passed through a regular classical or collegiate course, (and thereby rendered qualified for scientific pursuits,) are induced, from motives of economy and convenience, or with the view of sustaining institutions of their own state, to enter some of the small medical schools, where they cannot possibly have the advantages of anatomical dissection, (the groundwork of the profession,) or the means of clinical instructions upon an extended scale. A knowledge of the science of medicine is not, like divinity and law, to be acquired by reading books in the closet and listening to the reading of a course or two of lectures; it can only be attained by seeing and feeling, in connection with the knowledge acquired from books.

"The great multiplication of medical schools in every section of the country, together with the proverbial facilities of becoming licensed practitioners, has so lowered the standard of professional excellence, and so manifestly degraded the medical character of the United States, that the present system will be, it is to be hoped, by a more enlightened public opinion ere long put down. The interest of the country is so much divided by these various institutions, and the patronage to each is consequently so small, that many of our ablest medical men will not accept places in them; were it practicable, however, for the professors

to obtain adequate compensation for their services, it would be impossible to find professional men enough of talents and attainments to occupy the several chairs in the innumerable medical schools in every town, village and cross-road place throughout our states and territories."

This statement, relative to the influence of the excessive multiplication of schools and extreme facility of obtaining diplomas in this country, in degrading the standing of the profession, is, we are convinced, in no respect exaggerated. In our preceding Number (p. 249), we ventured to express similar views, and the correctness of those opinions must now be considered as confirmed beyond cavil, sanctioned as they are by those of the Surgeon-General, whose ample opportunities for observation, and station, place him beyond the suspicion of any bias or prepossession, and whose conclusions must be received as flowing from a sober and careful observation of the influence of the existing condition of things.

Dr. L. has had prepared "a meteorological register, embracing thermometrical observations for a series of years, in every section of our states and territories; also, a report on the vital statistics of the army and the medico-topography of the military stations, extending over a period of twenty years; all which will be ready for the press in a few days, should their publication be authorized by Congress or by the Department of War."

We shall look forward with great interest to the appearance of this report.

ART. XX. *Animal Mechanism and Physiology, being a Plain and Familiar Exposition of the Structure and Functions of the Human System. Designed for the Use of Families and Schools.* By JOHN H. GRISCOM, M. D., Professor of Chemistry in the New York College of Pharmacy, and Lecturer on Animal Mechanism and Physiology. Illustrated by Numerous Wood-cuts by Butler. New York: 1839. Harper and Brothers, 12mo. pp. 357.

IF the rising generation be not imbued with a knowledge of Anatomy and Physiology, it certainly will not be for the want of the means and appliances for the purpose. Within the period of five years, no less than three original works on these sciences, designed for the use of schools, have appeared in this country. The first was the Outlines of Physiology by Dr. Hayward. Of this we formerly expressed a favourable opinion, (See No. of this Journal, for Feb. 1835, p. 463,) and we now again call attention to it, because it has the merit of leading the way, and, further, because the authors of the more recent works have, it seems to us, been deficient in candour, in avoiding all reference or allusion to it.

The next that appeared was the Physiology by Dr. Lee. This we noticed in our preceding Number, (p. 180.)

Finally, we have to introduce to our readers the work the title of which is at the head of this article. This differs in its scope and plan from its predecessors. With a view of rendering the study of Anatomy easier and more agreeable, Dr. Griscom considers the human frame as a *machine* composed of apparatus of various kinds, acting upon well known philosophical and mechanical principles; and the aim of the author is to illustrate the functions of the organs by the laws of Chemistry, Hydraulics, Hydrostatics, Pneumatics, Mechanics, Optics and Acoustics. This mode of teaching the subject has been very successful in the hands of Sir Charles Bell and Dr. Arnott; and Dr. Griscom has certainly prepared a volume well calculated to interest and instruct youthful minds.

ART. XXI. *The American Medical Almanac for* 1840, *Designed for the Daily Use of Practising Physicians, Surgeons, Students and Apothecaries. Being, also, a Pocket Memorandum and Account Book, and General Medical Directory of the United States and the British Provinces.* By J. V. C. SMITH, M. D., Editor of the Boston Med. and Surg. Journal. Vol. 2; Continued Annually. Boston: 1840. 12mo. pp. 152.

THIS is a useful little volume. It contains brief notices of the Medical Colleges, Medical Societies and Hospitals in the United States; a list of the Medical Journals at present published; several short but interesting papers: one on the laws of human mortality and another on the statistics of consumption, by Mr. Shattuck; one on the application of remedies to the external parts of the body and a second on the immovable apparatus for the treatment of fractures, by Prof. Warren; a very interesting account of the Medicinal Springs of Virginia, by Dr. Hayward; a formulary of prescriptions, &c., &c., &c.

There is a paper, on the Mortality of Prisons, which we indicate also, merely to put the reader on his guard against the erroneous views which are endeavoured to be promulgated in it. It is sufficient to state that the author is a violent partizan—a bitter opponent of the Pennsylvania Penitentiary system—one who is so blinded by his zeal as to be incompetent for that calm examination of the facts which is demanded for the attainment of truth.

There are some errors in the volume which we have observed with regret, but it is perhaps not possible to arrive at entire accuracy in a work of the kind. With due care, the future volumes may be rendered annually less and less obnoxious to criticism in this respect.

ART. XXII. *Report of Experiments on the Action of the Heart.* By C. W. PENNOCK, M. D., Physician to the Philadelphia Hospital, Blockley, and E. M. MOORE, M. D., late Resident Physician to the Frankford Asylum. Read before the Pathological Society of Philadelphia, October 28th and November 4th, 1839. Philadelphia: 1839. 8vo. pp. 18. (Extracted from the Medical Examiner, No. 44.)

THIS is a highly valuable contribution to physiology. To those who are acquainted with Dr. Pennock, it is unnecessary to state that the experiments have been conducted with the utmost care, and are reported with perfect fidelity, and further that they have been executed on the most liberal scale as regards expenditure. To others, the valuable papers communicated by him to this Journal,* more especially his Experiments on the Efficacy and Modus Operandi of Cupping Glasses in preventing and arresting the Effects of Poisoned Wounds†; his Account of Malignant Pustule‡, and Description of a Case of Anomalous Aneurism§; with the splendid plates illustrating the two last, which were executed partly at his expense, will bear sufficient testimony that such is the fact.

Before detailing the experiments, which we shall do in the reporter's own words, we must premise that the stethoscopes used were flexible, constructed of a coil of wire, covered with gum elastic and silk; one about four feet long, the ear-piece and hollow cone for the reception of sound, being of horn; the other about two feet long, the ends composed of block-tin, and smaller than the first. This instrument the experimenters state to be essential to the success of the experiment, as the impulse is so great with the ordinary stethoscope, as to render the analysis of sound very uncertain. In measuring the heart, the ordinary shoemaker's measure was used. Artificial respiration was maintained by the bellows, at eighteen to twenty inflations of the lungs per minute.

* See Vol. II, p. 10; Vol. X, p. 319; Vol. XIV, p. 347; Vol. XV, p. 364; Vol. XVI, p. 94; Vol. XIX, p. 13.

† May, 1828. ‡ Nov. 1836. § Nov. 1838.

"*Experiment* 1.—A ram, about one year old, was selected. Owing to the alarm of the animal, it was found extremely difficult to ascertain the natural pulse and respiration; but during the time he was most quiet, the former ranged from ninety-six to one hundred and eight per minute, and the latter from thirty to forty in the same time. The stethoscope, applied to the left side of the chest, opposite the fourth rib, revealed the sounds of the heart distinct and normal, but faint. Upon the sternum, in the same line, they could scarcely be distinguished. The animal was then deprived of sensation by several blows upon the anterior portion of the cranium; and the bellows-tube being immediately introduced through an incision in the trachea, respiration was artificially sustained. An incision was then made down upon the sternum, and extending its whole length, with a knife whose edge was purposely roughened to prevent hæmorrhage. The bone was then divided longitudinally by a saw, and its parts separated by hooks, thus presenting a cavity of six or eight inches in diameter. Ten minutes had elapsed from the time the blow was given until the chest was opened, but the heart was still observed to beat irregularly and very rapidly. The excitement, however, soon subsided, and the heart pulsated regularly, and with a frequency of ninety-six per minute. The stethoscope was first applied to the heart—the pericardium being still unopened—and the sounds were observed to be of the same character as previously observed, but much louder. The first sound appeared to occupy about one-half of the whole time of a pulsation; this was followed by the second, which is about one-half as long as the first, or one-fourth of the whole, and is more flapping than the first; the remaining time is occupied by repose.

"The head of the auscultator being averted, and his eyes closed, the end of the stethoscope was applied by an assistant to the base near the valves, and to the body of the heart alternately; and it was decided by each in succession, that the first sound was louder over the body of the ventricles than near the valves, while the second sound was much more distinct near the valves, than over the ventricles elsewhere. The change, however, modified the second sound much more than the first. A portion of the lungs being interposed, we found the sounds duller, but in other respects of the same character. The anterior portion of the pericardium was then removed, and the heart exposed, presenting the right ventricle and auricle, and a small portion of the left ventricle, the auricle being concealed behind the heart. During the ventricular systole, the right ventricle was observed to be flattened, and the finger and stethoscope being applied, the first sound and impulse occurred at the same time. During this contraction, the base of the heart revolved for a short distance to the left, supposed to be about one-sixteenth of a circle, while the apex turned to the right at the same moment, thus causing the heart to assume a spiral form during the systole. The transverse diameter was much diminished by this systole; during diastole, it increased and the heart assumed a rounded appearance. The stethoscope was again applied in the same manner as heretofore detailed, and with the same result. A comparison being instituted, with the head averted as before, between the character of the sounds over the right and left ventricle, it was unanimously conceded, that on the right, the first sound was flapping and shorter than on the left, while on the latter it was prolonged and rushing. Such was the rapidity of the heart's action, that some difference of opinion existed with reference to the relative contraction of the auricle and ventricle. Drs. Pennock and Wood being of the opinion that the ventricular systole is immediately followed by the auricular contraction, which is synchronous with the ventricular diastole; or to detail the succession more accurately, we have, 1st, the systole of the ventricles occupying one-half of the whole time, during which systole the auricle dilates; 2d, immediately at the termination of the systole, the auricle contracts, and the ventricle dilates synchronously, occupying one-fourth of the whole time; 3d, the state of repose follows, in which the ventricle is full, occupying the remaining time. Dr. Pennock is of the opinion, that the auricular contraction occupied rather less time than the period of repose. Dr. Moore coincides with the opinion, except in not considering the emptying of the auricles, during

the diastole of the ventricles, the result of active auricular contraction, but of simple distension, relieved by the diastole of the ventricle, and thinks he perceives a contraction of the auricle at the termination of repose, immediately preceding the ventricular systole. The first sound, impulse, and ventricular systole, were synchronous. There was, however, an appreciable difference between the contraction of the ventricles and the pulse, increasing as the distance from the heart was greater. The pulse varied from eighty-four to ninety-six, becoming irregular when the artificial respiration was omitted or too rapid.

"The heart pulsated two hours after opening of the chest.

"*Experiment* 2.—A ram, about a year old, whose pulse was irregular, but seventy-eight per minute, was selected for the experiment, on account of the slowness of the heart's pulsations, which facilitates the analysis both of the sounds and motion. Sensation was destroyed by blows upon the head, as in the preceding experiment, and the chest opened as before, but the heart beat feebly and irregularly, being congested, and expelling but a small portion of its contents. The sounds were feeble over the right ventricle, (not observed over the left,) and the second soon disappeared entirely; but the first sound remained, whilst the heart contracted, which ceased to beat in a short time.

"*Experiment* 3.—A ram, six months old, was chosen; pulse, 102; respiration, 32. Was struck upon the forehead anterior to the horns. Some difficulty was experienced in introducing the tube connected with the bellows, and in opening the chest. Fifteen minutes elapsed before the heart was exposed. It was found congested and its action irregular. The sounds were more feeble and the heart contracted less forcibly than in the first experiment, but the coincidence between the impulse and the ventricular systole was the same, as were also the spiral motion, the peculiar character and succession of the sounds, as well their comparative intensity at the base and body of the heart. Suspecting from the experiments of others, as well as from the facts we had observed, that the semilunar valves were concerned in the production of the second sound, we attempted to elevate them by hooks introduced into the aorta and pulmonary artery, and note the effect upon the sounds. In consequence of puncturing the artery, hæmorrhage succeeded, and we failed in our purpose. The heart, while still beating, was removed from the body, and the stethoscope applied to the ventricle. It continued to contract many times while in the hand, and during contraction, a sound resembling the first sound was heard, differing only in being more feeble. But one sound was heard. The ventricles were then slit open longitudinally, and emptied of blood, and the same sound was elicited. Pulse fell at one time to 84 per minute. Heart beat three-fourths of an hour.

"*Experiment* 4.—A ram, about a year old, was opened as in experiment third. Our attention was now directed exclusively to raising the semilunar valves, but without success. The heart was again removed as in former experiment, the ventricle and right auricle cut open, and emptied of blood, and the fingers thrust into the apertures, thus elevating the tricuspid and semilunar valves. A sound precisely similar to that in the last experiment was detected, but less intense.

"*Experiment* 5.—A ram, about a year old. We administered two drachms of Allen's Prussic Acid, containing ten drops of the pure acid. Spasmodic breathing was induced in a few seconds. At the expiration of one minute and a half, the trachea was opened; and respiration established at the end of two minutes. Immediately upon cutting through the integuments, no blood was observed to flow. At the end of four minutes, the heart was exposed, but perfectly motionless and enormously distended.

Experiment 6.—The animal, an ewe, one year old. Deprived of sensation as before. Opened in fifteen minutes. Heart contracted irregularly at first. Same character of first and second sound; same relation of pulse, impulse, and ventricular contraction, and same comparative character of sounds upon the left and right ventricles as in first experiment. Heart did not contract vigorously as in first experiment, and when the right ventricle beaome congested, the second sound disappeared over it. The contractions of the two ventricles were also synchronous, The heart being allowed to rest upon the collapsed lungs, the

apex was not observed to rise. The heart during the contraction of the ventricle diminishes transversely, but elongates about one-fourth of an inch, as measured from base to apex. We again failed in elevating the valves. The heart was removed as in experiments three and four, with the same results.

"*Experiment* 7.—As those experimenters who had preceded us had found greater success upon the calf, we procured one about nine days old. It was deprived of sensation by a blow upon the occiput. Some difficulty was experienced in opening the trachea, and two minutes had elapsed before artificial respiration was commenced; and upon opening the chest, life was extinct; a few very feeble contractions being observed in the right ventricle.

"*Experiment* 8.—A calf, five days old, pulse one hundred and thirty; respiration thirty-two. Both sounds heard distinctly through the chest. The animal was struck upon the forehead, immediately above the frontal sinus. The chest opened as in first experiment. Same spiral motion observed during contraction. The elongation at the same time one-fourth of an inch, as measured from union of aorta and ventricle to the apex. The whole heart has an apparent motion from the base towards the apex, and the pulmonary artery turns partially around the aorta, which is a fixed point, describing about the arc previously mentioned. The same flattening of right ventricle during its contraction as before observed. When the stethoscope was placed upon the aorta, two inches above the valves, both sounds were heard, but the second sound much louder than the first. Over the pulmonary artery both sounds were faint, but especially the second, which disappeared as the heart became feeble. A curved needle was passed into the aorta, but the sounds were indistinct, and the second appeared to be absent sometimes, and not at others, when the hook was in the artery. Upon examination after the removal of the heart, it was found that the valves were sometimes elevated, and at others not.

"*Experiment* 9.—Experiencing great difficulty in analyzing some of the movements and sounds of the heart in animals of the size upon which we had experimented, we resolved to inspect the heart of a horse, in which the pulse in health ranges from thirty to forty per minute. In this experiment we were assisted by Drs. Gerhard, Stewardson, Peace, Hardy, Fell and Goddard, but to the latter gentleman especially, we owe our thanks for the assistance rendered.

"We found in the animal we had selected, that the pulse was about thirty-six per minute, and respiration twenty-eight in the same time.

"In order to prolong life, the trachea was opened before the blow was given. Immediately after the blow was struck, which was directed to the forehead, that the skull might be depressed upon the anterior lobes of the brain, the bellows-tube was introduced, and artificial respiration commenced. The skin was dissected back from the median line upon the thorax, the cartilages of the ribs sawn through upon the left side of the sternum, and several of the ribs cut off about one-third of their whole length from their sternal extremity. On account of the hemorrhage, we were obliged to secure many arteries, and twenty-five minutes had elapsed from the time the blow was given until the heart was exposed. It presented the left ventricle, the appendix of the left auricle and a portion of the right ventricle. The pulsations were one hundred per minute, but on account of its size we were enabled to observe the relative contraction of the auricle and ventricle, which we found to succeed each other as follows:—During the contraction of the ventricle, the auricle dilates; at the expiration of the systole, the auricle contracts, and the diastole of the ventricle commences, the auricular contraction apparently occupying about one-half the time of the ventricular diastole. During its systole, the left ventricle flattens and elongates. During its diastole it shortens, and assumes a rounded form. The sounds were detected, but not loud; the second not existing over the pulmonary artery, but heard over the body of the left ventricle.

"Death arrested the further progress of the experiment, twenty minutes after the chest was opened. Dr. Moore coincides with the other gentlemen in reference to the relative contraction of the auricle and ventricle, and thinks his observation in Experiment 1, erroneous.

"Although every experiment had confirmed our views of the agency of the valves of the aorta in the production of the second sound, we had heretofore failed in elevating them; we were also still doubtful respecting the relative contraction of the auricle and ventricle, for, although the last experiment had appeared more satisfactory on this point than several of the preceding, yet, as life continued but a short time after opening the thorax, and as many circumstances unfavourable to clear and calm observation were connected with the experiment, we resolved to pursue the investigation of these obscure points, and to exhibit the facts that we had observed to a few medical friends.

"*Experiment* 10.—A ram about six months old, pulse ninety-six. Deprived of sensation by a blow upon the head, and opened as in Experiment 1. The heart contracted well, but exhibited great irritability when touched. Its pulsations rose to one hundred and fifty per minute, rendering it difficult to analyze the sounds; but the first sound and impulse were observed to coincide. The spiral motion and elongation were as heretofore detailed. While still contracting forcibly, the heart was removed from the body, and the first sound heard when entire, and also when both ventricles were cut open and emptied of blood.

"*Experiment* 11.—As the last experiment had not been very satisfactory, we pursued the investigation upon a calf four weeks old; pulse one hundred and five. Both sounds distinctly heard through the chest. Struck upon anterior portion of the cranium, and opened as before. The pericardium was left entire, to avoid the irritation of immediate contact with the heart. The stethoscope was placed alternately upon the aorta, the body of the right ventricle, and upon the septum near the apex. Upon the aorta the second sound was found to predominate; upon the body of the right ventricle it was scarcely heard, and the first was present; and near the apex upon left ventricle, or septum, both were detected; the first, louder. The spiral motion, the elongation and elevation of the apex as before observed. A hook was passed into the aorta by Dr. Moore, and one of the semi lunar valves elevated; the eyes of the auscultator were closed, to prevent the possibility of bias from preconceived opinions. While in this position, the auscultator announced the absence of the second sound, and the accession of a rough bellows sound in the first sound. The hook was then withdrawn, and the second sound was declared to have returned. This experiment was tried twice by each, and by some three times in succession, and the results were uniform. No hook was passed into the pulmonary artery, inasmuch as no sound was heard over it at this time. The auricle contracted while in the hand, emptied of blood.

"*Experiment* 12.—A ram six months old; pulse ninety-six; respiration fifty-six. Animal struck upon the forehead, as in the previous experiments, and artificial respiration established in three-fourths of a minute. During the opening of the chest, much hemorrhage took place. The heart was at first tumultuous in its action, but became regular in a few minutes. The first and second sound were heard over the body of the right ventricle, but more feebly than over the left; both sounds were heard over the left ventricle and aorta, but the second louder than the first over the latter than over the former. Hooks were passed into the ventricle, for the purpose of keeping open the auriculo-ventricular valves. (These, however, failed of effecting the object, as seen upon examination afterwards.) The sounds gradually became more feeble as the heart congested, and the second sound ceased altogether, both over the heart and arteries, while the first still remained. The auricle was observed to contract over its entire surface, as much upon the body as upon the appendix. The contractions with reference to the ventricle were irregular at this time, except for a very short period, when they appeared to precede those of the ventricle immediately, recurring at the termination of repose. The heart contracted one hour after the blow was given.

"*Experiment* 13.—Wether, nine months old. This experiment failed on account of defect in the apparatus for maintaining respiration. As the heart became more feeble, the auricle appeared to contract immediately antecedent to

the systole of the ventricle, but owing to the circumstances attendant upon this experiment, we feel very uncertain as regards the observation.

"*Experiment* 14.—Ewe, nine months old. Struck as before. Trachea opened in half a minute. Chest opened in four minutes. Heart tumultuous. It gradually became more quiet, until it fell to one hundred and twenty, and contracted forcibly. The first sound alone was heard over the right ventricle and pulmonary artery. Pressure upon this artery produced a bellows sound in the first sound. The auricles were pushed into the auriculo-ventricular openings by the fingers. The first sound was thus rendered much more feeble, and lost its sharp character, the ventricles contracting imperfectly and irregularly.

"*Experiment* 15.—A calf five days old; pulse one hundred and twenty-six; respiration thirty. Destroyed by a blow upon the head, as before. Artificial respiration established in two minutes and a half. The heart was exposed in six minutes, rather hurried in its action, but soon fell to one hundred and twenty pulsations per minute. The heart contracted with a moderate force. The second sound extremely feeble over the body of the right ventricle and pulmonary artery; but it soon disappeared over both. The sound was still heard over the left ventricle and aorta, louder over the latter. The auricle contracted with a quick motion, the contraction not being confined to the appendix, but extending over the whole body of the organ. As the heart became weaker, the pulsations were slower, and we were enabled to analyze the relative contractions of the auricle and ventricle much better than at any previous experiment. They evidently bore a different relation from what we had previously supposed. The succession is as follows:—First the auricle contracts, and the action is immediately propagated to the ventricle, which contracts instantly, accompanied with the diastole of the auricle; the diastole of the ventricle immediately follows, accompanied with a subsidence of the auricle by passive and not active contraction, which partially fills the ventricle; then follows the state of repose, at the termination of which the auricle contracts. During the dilatation of the auricle, the vena cava also dilates; but it was difficult to say, whether the cava dilated during the contraction of the auricle or not, as the contraction of the latter was so rapid and so soon followed by the contraction of the ventricle. While still contracting, and when scarcely any sound was heard upon the ventricles, the stethoscope was applied to each auricle, and a sound similar to the first was heard, but very short and more flapping, resembling very nearly the first sound of the fœtal heart.

"*Experiment* 16.—A calf two months old; pulse ninety. Deprived of sensation as before. The chest was opened in eight minutes, and a few ribs removed from the left side. The heart pulsated slowly, and at a rate of ninety-five per minute; both sounds were distinct, but not loud. The second sound was heard more loudly over the pulmonary artery than on the right ventricle, the sound being but feeble in either position. Both sounds were heard upon the left ventricle. An instrument was introduced into the left ventricle, through the auricle, and the mitral valves prevented from collapsing; this produced congestion of the ventricle immediately, and the action became hurried and irregular. The stethoscope being applied to the left ventricle, the sound was not as loud and clear as before, but not modified in any other manner. The instrument was then withdrawn, and the sound became louder. The relative contractions of the auricles and ventricles were as in the last experiment.

"The difference in the intensity of the first sound in this experiment, when the mitral valve was kept open and when allowed to close, may be attributed to the fact that there was no fixed point for the muscle of the ventricle to act upon, by the retention of the blood, and it therefore could not empty itself of its contents, and, of course, would not yield a strong sound."

From the preceding experiments, Drs. Pennock and Moore draw the following conclusions:

"1. The impulse is synchronous with, and caused by, the ventricular contraction; and when felt externally, arises from the striking of the apex of the heart against the thorax.

"2. The expulsion of the blood from the ventricles is effected by an approximation of the sides of the heart only, and not by a contraction of the apex towards the base; during the systole the heart performs a spiral movement, and becomes elongated. (Experiments 6, 10 and 11.)

"3. The ventricle contracts and the auricle dilates at the same time, occupying about one-half of the whole time required for contraction, diastole and repose. Immediately at the termination of the systole of the ventricle, its diastole succeeds, occupying about one-fourth of the whole time, synchronous with which the auricle diminishes, by emptying a portion of its blood in the ventricle, unaccompanied with muscular contraction. The remaining fourth is devoted to the repose of the ventricles, near the termination of which the auricle contracts actively, with a short, quick motion, thus distending the ventricles with an additional quantity of blood; this motion is propagated immediately to the ventricles, and their systole takes place, rendering their contractions almost continuous. (Experiments 15 and 16.)

"4. From the termination of their diastole to the commencement of their systole, the ventricles are in a state of perfect repose, their cavities remaining full, but not distended, while those of the auricles are partially so, during the whole time.

"5. The sounds are produced by the motions of the heart or its contents, and not by striking against the thorax, as proved in all the experiments; being much louder when the stethoscope was applied directly to the heart, than when to the chest, or with the lungs interposed.

"6. The sounds are more distinct when the muscle is thin, and contracts quickly. Hence, the clear, flapping character of the first sound over the right ventricle, as compared with the left.

"7. The first sound, the impulse, and the ventricular systole, are synchronous. This sound may be a combination of that caused by the contraction of the auricles, the flapping of the auriculo-ventricular valves, the rush of blood from the ventricles, and the sound of muscular contraction. From experiments 3, 4, 6 and 10, when the heart was removed from the body, the ventricles cut open and emptied of their contents, the auriculo-ventricular valves elevated, and a sound, resembling the first, still heard, it may be chiefly attributed to the muscular contraction. That these valves aid but slightly in its production, may also be inferred from experiment 16.

"8. The second sound is caused exclusively by the closure of the semi-lunar valves, from the re-action of the arterial columns of blood upon them, in its tendency to regurgitate through the aortic and pulmonary orifices. This is proved by the greater intensity of this sound over the aorta than elsewhere, the blood having a strong tendency to return through the valvular opening; by the greater feebleness of the sound over the pulmonary artery, which is short, and soon distributes its blood through the lungs, thus producing but slight impulse upon the valves in the attempt to regurgitate; by the disappearance of the sound, when the heart becomes congested and contracts feebly; and, finally, on account of its entire extinction when the valve of the aorta was elevated.

"9. The second sound is synchronous with the diastole of the ventricle."

These experiments, it will be perceived, confirm very nearly the conclusions of the British physiologists; and, in addition, lead to some new results.

ART. XXIII. *Statistics of the Medical Colleges of the United States.* By T. ROMEYN BECK, M. D. From the Transactions of the Medical Society of the State of New York, vol. iv. Albany, 1839, 8vo, pp. 64.

THESE statistics, though not complete, furnish some interesting information relative to the number, and places of residence, of the medical students and graduates, at various periods, in the different schools of the United States.

It appears that there have been *thirty-two* medical schools in the United States; three of which are stated, by Dr. B., to have been discontinued, and three more may be added to this number, so that there are existing at present *twenty-six*.

The number of students attending lectures in 1838-39, was *two thousand three hundred and eighty-seven*. Now, assuming the population of the United States in 1838-39 at fifteen millions, which cannot be far from the truth, it will give a greater proportion of students to the population than exists in any other country, so far as we have been able to ascertain. In Prussia, in 1835, with a population of thirteen millions, there were only 699 native students. In France, in 1835, with a population of thirty-three millions, there were but 2,672 medical students, which number includes many foreigners.

ART. XXIV. *Introductory Lectures, delivered at the University of Pennsylvania*, November, 1839. By WILLIAM GIBSON, M. D., Professor of Surgery. Philadelphia, 1839, 8vo, pp. 16.

THESE lectures present us with very interesting, graphic and spirited sketches of the prominent surgeons of the English and French capitals—the result of the lecturer's observations during a short visit the past summer. The professor seems to have been received with great kindness and distinction by his trans-Atlantic brethren, and if the colouring of his portraits owe some of their hues to the grateful feelings awakened by the courtesies he received, we can readily forgive every embellishment, for the amiable feelings it displays.

These sketches are, however, in the main faithful, and they are in fine contrast with the vulgar and scurrilous delineations which have recently appeared from another source.

SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES IN THE MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Anatomico-Physiological Remarks on a Person who had been Beheaded.*—Some very curious and interesting remarks on a person who had been beheaded are recorded in *Müller's Archives* for 1838, by Professor Bischoff, of Heidelberg. We extract the following particulars from a translation by Dr. Bigger, published in our esteemed cotemporary, the *Dublin Journal of Medical Science*, (Sept., 1839.)

The individual upon whom the following observations were made was a robber and murderer, named Sebastian Zink, who was publicly beheaded on the 6th of July, 1838. Professor Bischoff and Dr. Heerman stationed themselves immediately under the scaffold, so that they could have the head and body of the decapitated man immediately under inspection, whilst Dr. Jolly remarked on the outside every thing which should occur, the greater part of which could also be seen and heard by his two colleagues.

"A few seconds," says Prof. B., "after the blow with the sword had been struck, at thirty-six minutes and a half past nine, we received the head, which was hastily handed down in the bandage which had covered the face, without having been deranged by falling or receiving any shock. The bandage was immediately removed, in order to see the manner of separation from the body, the bleeding, and the impression of the features. The blow had been given most successfully, and the blade had passed anteriorly between the os hyoides and the larynx, posteriorly very nearly between the fourth and fifth vertebræ, yet in such a manner that a portion of the left oblique process, and of the body of the fourth and a piece of the oblique process of the fifth were hewn through. The blood flowed slowly and continually. The expression of the countenance was of the most perfect tranquility, not a trace of pain or distortion. The eyelids were a little sunk, the mouth closed, yet easily opened. The expression of the eyes was perfectly tranquil, neither staring, as mentioned by an earlier observer, nor yet dull and without lustre, but like those of a person who looks at something at a great distance. Dr. Heerman, who had visited and sat with the criminal for an hour on the preceding evening, could not discover any greater change in the features than the absence of his accustomed piercing, sharp glance, and the pupils being somewhat dilated.

"I approached my fingers, and then a brilliant needle close to the eyes, yet without touching either eyes or eyelids. This was repeated often without causing the slightest motion in either the eyes, eyelids, or other features.

Dr. Heerman now shouted his name in his left ear, and the word 'pardon,' under the conviction that this sound would produce an effect upon whatever consciousness might be present, as up to the last moment the criminal had been continually hoping for a reprieve. There was no trace of any motion. I now held to his nose a bottle of very strong smelling tincture of assafœtida, which

preparation I preferred to ammonia, because I expected a purer action from it on the olfactory nerves, as it might be possible that the ammonia, by stimulating the nerves of the mucous membrane, should produce a motion of reflection. This experiment also failed. I then dropped upon his tongue a drop of the tincture of coloquintida; a feeble thrusting forward of the tongue and slight motion of the jaw ensued; both these motions were repeated three or four times, at short intervals, whilst in the other features no trace of motion was visible. In order to try, in a certain degree, how far the spirits of wine contained in the tincture could be regarded as cause of the motions, I placed a drop of pure spirits of wine on the tongue, which caused a similar motion of both tongue and jaw.

"All these experiments were finished within one minute after the fatal blow had been given. The question now arises, were those feeble motions of the tongue and jaw the consequences of sensation? if so, consciousness must have been present; or were they reflected motions dependent on irritation of the mucous membrane of the tongue, or from irritation of the severed spinal marrow, and therefore not caused by the tincture of coloquintida? To both of us the last of these suppositions appeared most probable. The tranquil condition of all the other muscles of the face appeared to contradict the idea that any unpleasant taste or flavour had caused these motions. The symptoms of the reflex function, however much developed in the motions of chewing and swallowing, are much less affected by irritants applied to the tongue than by those applied to the mucous membrane of the palate, uvula and jaws. I must mention, also, that real irritation of the mucous membrane of the tongue with the point of a pin produced no motion. On the other hand, opening and shutting of the mouth are the motions which are most frequently to be seen in decapitated animals, and which are certainly dependent on the violent irritation of the spinal marrow. The tongue can move very little at the same time, on account of the attachments of the muscles which retract it having lost their fulcrum.

"Thus there does not appear to have been a single symptom present which permits us to suppose that consciousness was present; it appeared to have ceased instantaneously. It is right to remark that previous to the blow being given, he was not at all confused in mind, as were the ten criminals beheaded by the executioner Brand, as communicated by Heim. Zink, previous to execution, was in a perfectly careless mood, yet a little excited, and displayed the lamentable rudeness of his general demeanour; his mental powers were so little affected, that he said to the attendants of the executioner, as they were binding on the bandage on his eyes, an instant before he received the blow, 'Ye slaughter one like butchers!' During life this man seemed to possess very little nervous sensibility, the same was evidenced after death, in the experiments performed, so the evidence of those who have obtained contrary results is not by this instance much weakened. Yet I may say that negative results of an observation in the state of mind in which the greater number of observers must be at such a moment, carry with them more credence than positive ones, in which the excited fancy may play a prominent part, as from the relations of others, who during similar operations previously have beheld marvellous things. All the evidence brought forward with any accuracy to prove the continuance of consciousness have consisted mainly in a few remarks on impressions being conveyed to the auditory apparatus in animals which had been irritated, which collectively cannot be considered as motions of reflexion, or as caused by irritation of the spinal marrow.

"I now proceeded to perform certain experiments from which I expected real motions of reflexion. I touched with a needle the eyelids and eyelashes as well as the conjunctiva; I irritated the mucous membranes of the nose, mouth and pharynx. in the expectation of perceiving motion, but all in vain; all the muscles remained perfectly quiet, so that this was a proof not only of the rapid disappearance of consciousness, but also of that of the nervous irritability. Even piercing the severed part of the spinal cord with needles, and touching it with a pencil of kali causticum, produced no motions more in the head, whilst

yet not more than from two to three minutes had passed from the period when it was severed from the body.

"We now turned our attention to the trunk, and whilst Dr. Heerman quickly tied the carotids, out of which the blood continued to flow with little jerks, in order to support the nervous and muscular irritability by detaining the blood, I sought, by piercing, scratching and pinching the skin on the soles of his feet, fingers and toes, to call forth some reflex motions; this proved vain also. Irritating the spinal cord produced twitchings in the pectoral muscles, and elevation of the arms.

"The corpse was now placed in a coffin and conveyed to the neighbouring hospital, where every thing was ready for further experiments. It was now fifteen minutes past ten, consequently thirty-eight minutes and a half since the execution.

"We next introduced some electrical streams into the nerves. For this purpose Dr. Jolly had constructed a galvanometer, which by the immersion of a single plate of one-fourth inch square in pure water, produced an aberration of the magnetic needle to about 90°. I first sunk the platina terminations of the two conductors, one in the gray, the other in the white substance of the spinal marrow of the trunk. This process being repeated often, and the needles changed, not the slightest motion of the magnetic needle occurred; the introduction of the needles also caused no twitchings of the muscles. This experiment was tried on account of the assertion of Folchi, who stated that in a calf which had just been decapitated, and on which a similar experiment had been tried, there was an aberration of the needle about 6° west, on every new introduction of the needles, (Froriep's Notizen, No. 950,) which experiment had often before been tried without any effect on decapitated dogs. Dr. Heerman now exposed the median nerve in the upper arm, and I plunged the two needles into the trunk of the nerve, at the distance of about one inch from one another, and endeavoured, by mechanical irritation of the spinal marrow to produce twitchings in the arm; none occurred, nor were there any changes in the magnetic needle. I now applied one pole of a powerful galvanic battery of sixty pair of four inch plates, capable of giving me a tolerably strong shock, producing sparks, and decomposing water, upon the spinal marrow, the other on the hand. There arose evident yet slight twitchings in some of the muscles of the fore and upper arm, viz: in the supinator longus, extensor carpi, ulnaris longus, and in the internal head of the triceps, but no motion in the magnetic needle. It also remained perfectly unmoved when I applied the second pole upon the trunk of the nerve, the same was the case when I applied both poles to the trunk of the nerve, so that the chain was perfect, although in the latter instance twitchings occurred in the muscles mentioned above. Some inference may be drawn for the hypothetical electrical streams in the nerves, at least that the nerves are exceedingly good conductors of electricity, and much better than the metals, or otherwise the magnetic needle should have been affected in the last case, had it been the better conductor. Mattevic, in the Bibl. Univers. de Genève, August, 1834, has communicated a similar experiment with like result. On the contrary, J. Müller has, in the Archiv. für Anatomie, Physiologie, &c., declared that all parts of the body, and even a drop of water act in the same manner. Without wishing to raise any doubt against this observation, we may say that from it cannot be deduced that the nerves and perhaps other moist organised parts are not good conductors. The want of reaction in the galvanometer, when the circle is completed, by any of these parts, will admit of the general conclusions being drawn either that they are very good or very bad conductors of electricity. The experiment of Müller admits only the one explanation, that the moist organic structures are very bad conductors, for he only employed a weak source of electricity, a single pair of moistened plates, and the circle was not completed, and thence there was no aberration of the magnetic needle. On the contrary, in our case the occurrence of reaction, the contraction of the muscles showed that the circle was completed. Should any one object that nerves are bad conductors, and that the results we obtained were from our using a very powerful source of elec-

tricity, his own argument might be used against him, for the more powerful the electricity, the more likely would it be to pursue the metallic conductor if it were the best. The non-reaction of the galvanometer appears to have been caused by the very great conducting susceptibilities of the nerves (or perhaps of the other animal tissues,) for electricity. I do not wish to draw as a conclusion that electricity is the active agent of the nervous system, a circumstance which for many other reasons I think to be improbable. I have repeated also the experiments of Varvasseaux and Berardi, as well as those of David, and in no instance has there been any change of position remarked in the magnetic needle when I sink the platina conductor of the galvanometer into the nerves of a living animal, and by means of mechanical irritation caused motions and twitches, actions of nervous irritability. This is accounted for, as we said before, from the nerves being better conductors than the metals.

"Mechanical irritation of the median nerve, pricking, pinching, and even cutting it across, produced no effects, whilst galvanism still produced twitchings.

"I next opened the chest and abdomen, whilst Dr. Heerman tried some experiments on the irritability of the iris. It was now fifty minutes past ten, and the iris showed no disposition to contract, not even when the pole of the battery was applied directly to it, the cornea having been removed, yet the battery was so strong that it immediately caused decomposition of the fluids of the eye, and a development of gas.

"In the chest and abdomen there were no spontaneous movements to be seen; also when the galvanic pole was applied consecutively to the phrenic and vagus nerves, to the stomach and intestinal canal, on the ureters, gall bladder, and the cystic duct, no contractions occurred. The right auricle of the heart alone continued to move after this, for an hour and a quarter, the same occurred in the muscles of voluntary motion, but was scarcely perceptible after an hour and fifty minutes. As the experiments on the phrenic and vagus nerves were made at ten minutes past eleven, just one hour and thirty-three minutes and a half from the execution, even then the twitchings in the voluntary muscles were very weak, in comparison with those mentioned by other observers in other cases, which confirms the remark which I made already with regard to the head, that the nervous faculty and capability of irritation were not strongly developed in this man.

"Whilst these observations were making, I was seeking the thoracic duct, which I found, with a good deal of trouble, on account of the body being very fat and the vessel containing only a muddy, grayish fluid: a portion of this fluid being removed, coagulated as usual, but it formed a very small coagulum around the bit of stick which was moved in it. Under the microscope the little round bodies did not appear numerous in the fluid, but were nearly of the same size as the molecules in the blood, many of which might have entered along with the chyle whilst we were obtaining it, but there is sufficient to distinguish these two sets of bodies from one another.

"I take advantage of this opportunity to communicate my observations on the chyle molecules, which I had often examined in dogs. In the white chyle of the thoracic duct of young dogs, after being fed, I have always seen two kinds; the first exhibits an innumerable quantity of exceedingly small, little bodies (kòrnchen) or particles, which are only to be seen when the chyle is permitted to run on plates of glass, when their appearance is exactly like that of sand put in motion. The microscope must be very powerful to show this. The second kind of little bodies are fewer in number, much larger, and the greater part of them of the size of the molecules in the blood, but there is no kernel and no envelope to be seen in or on them, besides they have not the yellowish appearance which, when powerfully magnified, even a single blood molecule exhibits; they are unchangeable in water and in active acid. When the chyle is agitated they sink to the bottom, and they form a part of the coagulum. The rest of the fluid remains white, where they are in very small number, and where they could not be the cause of the intense white colour. This colour is, I think, attributable to the other set of innumerable little molecules, which I

take to be fat. Still I am opposed to the opinion of J. Müller, that the white colour of the chyle is principally attributable to fat; for if the chyle be treated with æther, in a glass tube, often shaken, and fresh æther still added, (not in a watch glass, where the experiment cannot succeed,) it loses nearly all its colour, and appears of a light opal. This remnant of opacity cannot be caused by the larger molecules, for they were dissolved just as the blood molecules are by the æther, a process which I saw going on; but it seemed to me that this opacity arose from coagulated albumen, which is more difficult of solution in æther. Very numerous little bodies were to be seen in the fluid, which remained like coagulated albumen. I believe that the evidence of Tiedeman, Gmelin and J. Müller are alike, all considering the prevalence of the white colour in the chyle as proceeding from very minutely divided particles of fat, but that these are not the genuine chyle molecules which exist independent of them. This view is strengthened by this, that in the pinkish contents of the duct in dogs which had fasted long, those very fine particles were not so evident, whilst the other chyle molecules were even as numerous, nay, relatively more numerous than usual.

"After having collected the chyle, I observed the mucous membranes of the trachea and larynx, and had the pleasure of seeing myself, and being able to show to those present, the ciliary motions. These motions were not discoverable in the æsophagus, not even in that part which covers the posterior wall of the cricoid cartilage.

"I next examined the urethra, vesiculæ seminales, vas deferens, epididymus. In the urethra it was evident that an ejaculation of semen had taken place, as in the case given in Valentine's Repertorium, I. p. 277; this arises, naturally, from the violent contraction of all the muscles at the moment of decapitation. There was found in the urethra many large, yellowish coagula, like coagulated lymph, and a whitish fluid which contained mucous seminal animalculæ alive, but not so numerous as those which I have seen in the seminal fluid of other animals. The same kind of coagula, and the same animalculæ were seen in the vesiculæ seminales, which were of small size. The animalculæ were found in the whole course of the vas deferens, alive, but not in such great numbers. I thought I could see them also in the seminal canals of the testis, but as they were few in number, and not living, I do not wish to assert this as a positive fact. The contents of these parts contained also many other kinds of particles, but none of such determined forms as those which Valentine describes. It is probable they were particles of epithelium. The fluid which exuded, on a section of the prostate being made, was clear and pellucid, but I could not discover in it any elementary bodies, except some blood molecules.

"Much pains were taken to examine the brain carefully; when the skull-cap was removed, all the veins were found to be full of air, and air had penetrated between the pia mater and arachnoid, causing a very peculiar appearance on the surface of the hemispheres. Could this air have entered at the severed part of the spinal cord? This is difficult to credit, for in the brain as well as in the spinal cord, the pia mater and the arachnoid lay very close together, and no fluid intervened, the escape of which might permit the entrance of air. Through rupture of the vessels? This I am not willing to allow either. And by this my view is strengthened, that the formation and course of the arachnoid is not yet perfectly discovered. The examination of the brain was not satisfactory. Particular attention was paid to the spleen: in it I found the little white bodies described by Malpighi, which I have seen in the four classes of vertebrated animals, but which are hard to discover clearly in man. I believe that the function of the spleen is to produce them, and I cannot see any reason why Müller should suppose that those he has seen in certain ruminating animals, are of a nature different from those which have been found in the spleens of other animals, or from those which I believe to exist in the healthy spleens of all men. That these are hard, and tolerably large in some, whilst in others they are soft, small, and easily dissipated, is no reason that they should be considered essentially different. I found, also, in these bodies, universally, as well as in the spleen of this subject, those little round bodies or balls which J. Müller has described.

With a cataract needle it is easy to isolate as many of these little bodies from the spleen as may be necessary for microscopical observation. I find that these are exactly similar in appearance, size, relations to water and acetic acid, to those of the chyle; therefore is it not possible that these may originate in the spleen? It is true that the corpuscules of which the parenchyma of the liver consists, are, as Müller remarked, very like those in the corpusculi Malpighiani, yet similar bodies are to be found in many places, and still the parts organised from them are very different from one another.

"From attention to this point, I think shortly, much information will be obtained with regard to the spleen, and the formation of the corpuscules of the blood, although as yet no change has been seen in the formation of blood after extirpation of the spleen. It is questionable whether sufficiently accurate examination has been made of the blood globules in those animals which have been deprived of their spleens.

"Lastly, I examined the stomach and the villi of the intestinal canal. In the former the mucous membrane of the fundus was strikingly softened; it was now 4 o'clock, and the day very warm, the contents of the stomach smelt very sour, from wine and salad. The villi of the small intestine were of pyramidal form, formed of little bodies united together, and I could not discover any epithelium formation on them after they had been gently washed in water.

"There was no diseased appearance in the whole body, except an adhesion of the lung to the walls of the thorax, occasioned by an old gun-shot wound in all probability; three grains of large shot were found under the pleura costalis, unchanged in appearance, and surrounded by a quantity of cellular tissue.

"The ventricle of the heart was very strong and muscular, and compared with the rest of the muscular structures, might be called hypertrophied.

"After six hours busily and uninterruptedly employed with the body of this unfortunate man, though aided by my friends, I still feel that many observations might have been made in a more accurate manner. My hope is, that what has been done may lead to further observation on the same subject."

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2. *Ectopia Cordis.*—Two cases of this rare mal-formation have been already recorded in this Journal, (see No. for February, 1833, p. 346, and No. for November, 1838, p. 192,) and we have now two more to add to them, extracted from recent foreign journals.

Case 1.—On the 11th of February, 1838, Dr. Pecchioli, Professor of Clinical Surgery in the University of Sienna, was sent for to the *Hôpital Santa Maria della Scala*, of Sienna, where a child had been brought, born at the full period, the heart of which was exterior to the chest. This organ had protruded through a nearly circular opening of about an inch and a half in diameter, the margin of which was regular. The pericardium was entirely wanting, the heart appeared naked. The coronary vessels well developed and full of blood were easily distinguishable. The large vessels, both arterial and venous, seemed as if prepared by the scalpel of the anatomist; they passed into the cavity of the chest, leaving the heart hanging like a medal. This organ could be seen in the performance of its functions; the right cavities were anterior and the left posterior. The apex of the heart was turned downwards, and in the contractions of the left ventricle, it could be seen to bound forwards, and move more than an inch from the points at which it was during its period of relaxation.

At the moment of birth, the action of the heart was energetic, but it gradually lessened until death, which took place in 26 hours.

The autopsy showed that the upper piece of the sternum was deficient, except a small lateral portion to which the clavicles were articulated. The xyphoid cartilage was present.

The specimen has been preserved in the museum of the hospital.—*Gaz Méd. de Paris*, 5 Jan., 1839.

Case 2.—On the 20th March, 1839, at Schneidemühl, a stout woman, who had before borne five living and healthy children, was delivered of a remarkably stout female infant, presenting the following defective formation:—The heart,

and under it, the stomach, both organs apparently separated by a partition, lie outside the thoracic and abdominal cavities, in a sack of skin nearly transparent. The protrusion is through a deficiency of the lower third of the sternum and upper part of the wall of the abdomen, as far as midway between the pit of the stomach and navel. The fissure is altogether 5½ inches long, and 2¼ inches broad, and is situate almost in the middle line of the body. The child is living, sucks, and is otherwise well. The prolapsed parts are protected by an appropriate bandage.—*B. and F. Med. Rev.*, Oct., 1839, from *Med. Zeitung*, April, 17, 1839.

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3. *Double Peritoneal Sac.*—M. Nonat communicated to the *Société Médicale d'émulation*, a curious anomaly in the peritoneal sac observed in a man æt. 60, who died in the Hôtel Dieu, of gangrena senilis. On opening the abdomen there was found in addition to the ordinary peritoneal sac, a second one, concentric with the first, and enveloping the small intestines as far as the ileon. This second peritoneum was identical in its structure with the first, and appeared rather congenital than accidental.—*Gaz. Méd. de Paris*, Sept. 7, 1839.

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4. *Experiments on Digestion.*—The following are the results of some extremely interesting experiments of Professor Schultz, of Berlin, instituted for the purpose of determining the relative digestibility of food in the stomach, and to ascertain the nature of the movements of that organ. The experiments themselves, from which these results are derived, we shall give in our next number.

"The first result," says the Professor, "which is obtained from my experiments upon digestion is, that vegetable food is more difficult of digestion than animal, and raw animal more difficult than boiled. Connected with the more difficult digestibility of vegetable food, is its longer continuance in the stomach and cæcum than usual. The stomachs of ruminating animals are often not empty after five days fasting; in the rabbit much food is still to be found in the stomach after a fast of 24 or 36 hours; and in carnivorous animals, pieces of potatoe and carrot that were devoured at the same time with meat, may be found still unaltered, although the meat be long ago digested. Even bread is less digestible than meat, though of all vegetable food the easiest.

"It may be asked, how the longer continuance of vegetable food in the stomach is possible, as the peristaltic motion is as strong in herbivorous and omnivorous, as in carnivorous animals. An explanation of this is afforded by the different forms of the stomach. In all herbivorous animals the small curvature of the stomach is very small, and the œsophagus is inserted near to the pylorus, while the fundus, on the other side of the œsophagus, is very much extended. The large curvature, which includes the whole of the fundus, is, on the contrary, much more developed; and the pylorus itself is short in proportion to the fundus.

"In carnivorous animals, on the other hand, the small curvature of the stomach is more developed in proportion to the large; the œsophagus is inserted nearly at the fundus, and the pylorus is, in proportion to the fundus, longer than in the herbivorous class.

"If, now, the nature of the peristaltic motion of the stomach be more nearly considered, it will be seen to be very different in carnivorous and herbivorous animals. The motion of the stomach may be compared to the peristaltic motion of the intestines, since it consists, like that, of alternate contractions and expansions of the circular and longitudinal muscular fibres. The only difference is, that in the intestines this motion is on all sides uniform, whilst in the stomach the motion of the small curvature is less the shorter it is, and, on the contrary, the more extensive the large curvature is, the greater will be its peristaltic motion, so that in herbivorous animals, the motion of the small curvature may disappear almost entirely. The difference between the peristaltic motion of the stomach and that of the intestines, therefore, will be the greater the more the small curvature is shortened in proportion to the large, and the more it is ex-

panded; and, therefore, at the same time, the pylorus lengthened, the more they will resemble each other; for the pylorus itself has nearly one uniform expansion of its muscular fibres, and, in consequence, its motion, like that of the intestines, is on all sides uniform.

"The motion of the stomach may, accordingly, be considered as defective, since it takes place only upon the large curvature, while the small is nearly motionless. It is evident that this partial motion will be greatest in herbivorous animals, and that in the larger proportional development of the small curvature, and lenthening of the pylorus of carnivorous animals, the motion of the stomach will be more similar to that of the intestines.

"The different kinds of motion in the stomach have a very different influence upon the motion of its contents. In herbivorous animals, when the large curvature is chiefly put in motion, the food is moved only along the course of the larger, and at the smaller is nearly motionless. If, now, the food, as is generally the case in those animals—for instance, in the rabbit—as long as it remains at the fundus, forms one consistent mass, it cannot otherwise happen, than that by the continued partial forward movement of this mass by the large curvature, it will revolve upon its axis in the direction of the peristaltic motion, and be pressed into a ball which takes the form of the floor of the stomach. All the contents, therefore, will not be moved forward towards the pylorus, but only that part which is changed into chyle at the surface of the ball, while the remaining part will continue to turn round in the fundus of the stomach. In this way the food in the stomach of herbivorous animals cannot go over into the intestines before it is quite dissolved, and this motion of the stomach is perfectly correspondent with the long continuance of the food in that organ. It is, however, very different in carnivorous animals. There the motion of the stomach is, corresponding with the quicker digestion, so arranged, that the rotatory motion of the food takes place either not at all, or at most but imperfectly; for the food at the small curvature is moved, although slowly, forwards towards the pylorus. and, therefore, put into a more progressive motion.

"The reason, therefore, why the food continues longer in the stomach of herbivorous animals is, that through the peculiar structure and motion of the stomach it is set into a rotatory motion, whereas the progressive motion into which the stomach of carnivorous animals sets its contents, is correspondent with its quicker digestion.

"That the omnivorous class stands in the middle between these two is self-evident.

"It appears of importance to remark, that in man, in the different states of health, the one or the other kind of motion may preponderate, and that the stomach may accordingly develop itself proportionately to the larger quantity of vegetable or animal food. The fundus will extend itself when the vegetable diet preponderates, as may be seen in old dogs which have always been fed upon vegetables. In this case the digestion will proceed more slowly, and through the rotatory motion the food will be kept longer in the stomach; in the opposite case, on the contrary, the food will be soon removed from the stomach by its preponderating progressive motion. If, now, in the usual formation of the stomach of man, indigestible vegetable food be taken, it will, like digested animal substance, be quickly removed from the stomach into the intestines, and thereby produce a disturbance of the cæcal digestion.

"I now proceed to speak of the act of vomiting, in the different forms of the stomach. The anti-peristaltic motion of the stomach bears the same relation, in the different forms of the stomach of carnivorous and herbivorous animals, to the evacuation of the food by vomiting, as the peristaltic motion bears to its further progress through the pylorus into the intestine. All those herbivorous animals in which a rotatory motion of the contents of the stomach takes place, either do not vomit at all, or with great difficulty; for the food is not urged by the anti-peristaltic motion towards the œsophagus, but merely set into a rotatory motion in the opposite direction, so that notwithstanding it be pressed upon all

sides, it cannot be driven out. The animal vomits, therefore, with the greater difficulty, in proportion as the stomach is so formed, that its contents are set into a perfect rotatory motion, as in the rabbit, horse, &c. &c. It has been hitherto said, that horses are prevented from vomiting by the spiral valve at the œsophagus; but this valve can no more prevent the regress of the food than its ingress into the stomach, since its action in the anti-peristaltic motion is merely the reverse of that in the peristaltic, viz., that like the cardia, which is without valves, it alternately opens and shuts, and so, at every time of opening, allows the egress as well as the ingress of the food. The reason, therefore, why these animals during nausea cannot vomit, must be sought alone in the peculiar form and motion of the stomach.

"On the other hand, vomiting takes place the more easily in proportion as the stomach is lengthened, and is in construction more similar to the intestines, for the food may then be driven towards the openings, either backwards or forwards, without being put into a rotatory motion. Hence, dogs and all carnivorous animals vomit without difficulty, and even in man this difference is remarkable, for children, on account of the similarity of their stomach to that of carnivorous animals, vomit easily, while, on the contrary, to older people, whose stomach resembles that of the herbivorous class, this process is more difficult.

"Hillifield (*Experimenta Quædam de Venenis*, Goettingen, p. 50) was already acquainted with the fact, that rabbits could not vomit. I have myself likewise endeavoured to excite vomiting in a rabbit by a dose of two grains of emetic tartar. A quarter of an hour after nausea was produced, together with great disquietude and anxiety; however the animal did not vomit. I have found also, by a similar experiment, that the guinea-pig, which has the same kind of stomach, is not capable of this process. These phenomena do not contradict the experiments of Magendie upon the action of the abdominal muscles during vomiting: for where vomiting is possible, the motion of the stomach gives merely the direction to its contents in which they are to be thrown out; vomiting itself is produced by the action of the diaphragm and abdominal muscles.

"The rumination of ruminating animals appears to take place so, that the food in the first stomach is not at all moved; or at least not in a rotatory manner, for it is generally too fluid, or too little consistent, to be able to form a round ball. However, in this form, small quantities of the chymy mass are more easily pressed into the œsophagus by the action of the diaphragm and abdominal muscles. This process has been ably explained by M. Flourens.

"I must now speak of diseased excitement of the motion of the stomach. There is another circumstance which causes a morbidly quick motion of the food from the stomach into the intestines, namely, too great fluidity. We have already seen, that the food corresponding to its time of continuance in the stomach, becomes more or less consistent. This happens, also, with liquid articles of food, for milk is changed in the stomach of calves into a cheesy lump of almost stony hardness, from which all the whey has disappeared. In milk this is caused, evidently, by its speedy coagulation, and the absorption of the whey by the vessels of the stomach; and in other liquids which are not coagulable, by the simple absorption of their fluidity. It must not be supposed that watery food is in itself hurtful to the digestion, for its fluidity is absorbed and the solid matter remains behind. However, there are fluids which, from their stimulating or indigestible qualities, either always, or only under certain circumstances, quicken the motion of the stomach so much, that the fluidity cannot be absorbed before it, as well as the solid parts, are removed from the stomach without being digested. This, it appears to me, is the cause of the prejudicial effects of milk, raw eggs, coffee, &c., which I have observed partly upon myself and partly upon animals.

"Milk, particularly in weak stomachs, quickens the motion of that organ so much, that even before it is coagulated it disappears through the pylorus. The digestion of the food with which the milk is taken will hereby be disturbed, and as it goes mostly undigested into the intestines, will also cause a disturbance of

he cæcal digestion, which will be followed by diarrhœa. The action of beer, particularly only half fermented beer, is similar.

"The same is the case with the raw yolk of eggs, the nourishing properties of which I do not dispute, but merely maintain, that in weak stomachs it is hardly digestible. Hard-boiled eggs are more easily digested than raw, as they do not excite the motion of the intestines.

"The effects of cold water are also similar. However, here it is not the water, but merely the cold which improperly affects the motion of the stomach, for in weak stomachs hot water always produces the most beneficial effects.

"Of all fluids, the prejudicial action of coffee is the greatest. The carbonisation of part of its oil, during roasting, appears to be the cause of this property. It is not merely itself indigestible, but also makes all other food, with which it is taken, likewise indigestible. From its stimulating properties the motion of the stomach is so greatly increased, that the whole contents disappear from the stomach before they are digested. This, in the healthy state, and when the stomach is overcharged, may relieve those complaints which are mechanically produced by the distension of the stomach, and it has therefore been generally thought that coffee promotes digestion. However, in fact, it disturbs it, and can only cause a momentary relief, which is presently followed by a greater evil, namely, a disturbed cæcal digestion. It is evident that coffee taken in the morning, and when the stomach is empty, cannot have this effect, for it can only go quickly through the intestines to the already digested excrement, without disturbing the digestion of other food.

"There still remains something which requires illustration, namely, how the stomach of amphibious animals and fishes, which is nearly uniformly extended on all sides, or at least whose small curvature is but little shortened, can detain its contents so long as is usual in these animals. The reason of this may be easily perceived if we consider that the peristaltic motion is here so slow and weak, that it is hardly to be recognised, and has been, indeed, altogether denied by several naturalists.

"The degree of digestibility of meat is different, according to the way in which it is prepared, and also according to the different animals, and the parts from which it is taken.

"Roasted meat is harder to digest than either boiled or raw. Its more difficult digestibility is probably caused by the partial carbonisation and hardening of its muscular fibres, which even after separation from one another go over into the intestines mostly unchanged, while the fibres of boiled meat are entirely dissolved. That according to the degrees of roasting, gradual approximations to boiled meat may take place is self-evident.

"Smoked or salted meat, such as ham, is easier to digest than roasted, and harder than boiled meat. To preserve the meat from spoiling it is saturated with the carbon of the smoke, and is rendered the more indigestible the more it is smoked, and in consequence dried. All substances which are used for the preservation of meat, render it, at the same time, indigestible, as it thereby becomes less soluble, for the most easily decomposable meats are, in general, the most easily digestible. Fat, particularly when surrounded by cellular tissue and thoroughly smoked, is still less digestible than roasted meat.

Cheese, new, as well as old, is nearly as digestible as boiled meat; nevertheless, its peculiar volatile part brings much foreign matter into the blood, which strongly stimulates the secreting organs, and gives rise to various complaints of the bladder. I have found that the flesh of the lower animals is in general harder to digest than that of the higher classes, and the easiest of all is the flesh of the mammalia and birds. Fish, boiled, as well as salted, such as salmon, herring, &c., is harder to digest than the roasted flesh of the mammalia, and roasted and salted fish more so than boiled. The fish of the crustacea, as is shown by my experiments upon crab's-flesh, is still more indigestible and injurious, and is not in the least altered, even when the roasted meat begins to be digested. This explains the fact, that fish and crustacea require very healthy digestive organs to be digested, and very easily excite intermittent fevers in people who are a

little disposed to disease. I am acquainted with an example of this in the village of Binnenwalde, near Rheinsberg, where, during autumn, a great many people were afflicted with an intermittent fever every Wednesday and Saturday. Upon further inquiry, it was found, that at this season of the year, the Tuesdays and Fridays were employed in fishing, and that most of the inhabitants ate fish in the evening or on the following day. With the changing of the day for fishing, the day upon which the fever broke out changed also; and when I explained to the people the effects of fish, and the sickly ate no more, the fever became more rare, and at last ceased entirely.

"The violent fits of illness which in many people follow the eating of crabs, &c., and even the poisonous effects of certain fishes, appear to arise from their general indigestibility.

"Oysters are the only exception to the indigestibility of the flesh of the lower animals. Nevertheless, that there is a certain similarity between them and fish, is shown by their frequent poisonous effects. It is also not known whether the oysters are really quickly digested, or whether, from an excitement of the motion of the stomach, they go speedily through the intestines, either partly or wholly unchanged. This is the more probable, as in many people they are apt to produce diarrhœa. The chyme also of oysters is much less acid than that of meat.

"The boiled flesh of fowls and pigeons I found was easier to digest than boiled beef or veal. In general, the flesh of young animals, especially veal, appears to excite the motion of the stomach, and by causing diarrhœa, to render its digestion less perfect than that of the flesh of full-grown animals. I have not observed any difference in the digestibility of the lean parts of mutton, pork, or beef, although pork and mutton are generally less digestible, on account of the larger quantity of fat which they contain.

"In all these different sorts of meat I have observed that their digestibility is much promoted by a perfect extinction of their living principle, by allowing them to hang in the air more or less time, according to the season of the year. I have often seen in cats and dogs, that the flesh of old animals, boiled perfectly fresh, is as indigestible as when eaten raw, and in man also with a weak digestion, the same difference in the digestibility of fresh and stale meat may be observed. The flesh of domestic animals, by becoming a little stale, is more easily digested, and is then also more digestible than that of wild animals. Among these latter, venison and wild boar are hardest to digest.

"In general, it may be inferred from my observations, that it is of great importance to establish a difference between the digestibility and nourishing properties of food, since very nutritious but indigestible substances, such as smoked and roasted meat; are often more injurious than such as are less nutritious but easily digested, as the finer vegetables, spinach, asparagus, &c.

"On the other hand, we must not determine upon the digestibility, or at least the nourishing properties of food, from the feeling of facility with which it is removed from the stomach. All those kinds of food which, by strongly exciting the motion of the stomach, go quickly into the intestines, may be easily borne by the stomach, but are very imperfectly dissolved, and at last are followed by all the consequences of disturbed digestion. They afford the body, therefore, only a very small quantity of digestible matter, and are again excreted mostly unchanged. On the contrary, there are other kinds of food which, on account of their long continuance in the stomach, appear for the moment to be hard to digest, yet are nevertheless perfectly digestible, and never followed by bad consequences upon passing into the rest of the intestines.

"There are, therefore, really indigestible substances which, under certain circumstances, and taken in moderate quantity, are easily borne by the stomach, for instance, oysters, milk, eggs, coffee, &c.; and there are also substances easily digestible, which sometimes appear to be less easily borne by the stomach, as is sometimes the case with boiled meat, particularly when taken in large quantities, which, on account of their perfect chymification, always remain longer in the stomach."—*Lancet, Nov.* 16, 1839.

5. *On the Preservation of Subjects for Anatomical Purposes.* By B. G. Babington, M. D. and G. O. Rees, M. D.—The difficulty which has existed in supplying the medical schools of London with subjects for dissection has made it an object of much importance to discover a method by which human bodies may be preserved from putrefaction. This matter was more particularly brought to our notice last winter, when great inconvenience was felt by the students, not only of Guy's Hospital, but of every school in London, from the insufficient supply of subjects for dissection.

There are, it is true, many methods now in use of preserving animal matter; and the processes of tanning, salting, pickling, drying, smoking, freezing, are so many familiar examples of those methods; but they are all more or less inapplicable to the purposes of anatomical science: thus, tanning, smoking, and salting, wholly alter the appearance and texture of parts; the corrosive action of acids is injurious to the instruments employed in dissection; and immersion in ice, which might possibly be practised, under favourable circumstances, in preserving whole subjects, would, independently of its expense and inconvenience, fail of its effect, when once the student had begun his work. The only antiseptic which is free from the foregoing objections is a solution of alcohol. This, it must be admitted, answers well for museum preparations; but its powers are limited, and its injection into the blood-vessels, even in its most concentrated form, will not materially retard decomposition: moreover, it destroys colour; and when employed in sufficient quantity to admit of the immersion of parts, is too costly for common use.

Some simple experiments of a purely practical nature, which we were induced to institute in consequence of the foregoing considerations, have led to a discovery, the application of which promises to remove one great obstacle to the study of the most important branch of medical education. Our attention was first directed to those chemical substances which were known to coagulate the blood; and we accordingly prepared strong solutions of the following metallic salts; viz. sulphate of zinc, sulphate of iron, and diacetate of lead. We purposely stopped short of the point of saturation, from a belief that the greater density of the fluid, in the case of salts so soluble, would impede its flow on injection. Infusion of galls was also adopted, from its powerful action in precipitating animal matters; and sugar in the form of syrup, being well known to possess preservative qualities, we thought it worth while to make trial of its capabilities. With each of these fluids a rabbit was injected, from the aorta; and another rabbit, killed at the same time as those which were made the subject of experiment, was kept, for the sake of comparison. They were all exposed to the air, in an open court; being merely protected from the weather by enclosure in a wicker basket, loosely covered with oil-cloth. At the end of three weeks, they had become putrid; and we could not perceive that, in any one instance, decomposition had been materially arrested. We were aware that arsenic and the bichloride of mercury both possessed considerable antiseptic powers. A solution of the former had indeed been tried with success at Guy's Hospital, in the previous year; but the poisonous qualities of these substances rendered them, in our opinion, as well as in that of others more nearly interested in their employment, decidedly objectionable.

The total failure of our attempts had nearly discouraged us from proceeding further, when it occurred to us that the preservative powers which exist in certain hydrocarbonous fluids offered some probability that they might be turned to account in the prosecution of our object. Creosote and pyroxylic spirit more especially attracted our attention; and as the former was too expensive to admit of its having been advantageously used alone, we combined it with thrice its bulk of solution of gum-arabic. Two rabbits were injected; the one with pyroxylic spirit, the other with this mixture; and exposed to air, with protection from the weather, precisely in the same manner as was practised in the former experiments. At the end of two months, from the 30th of November, when the injection was performed, these rabbits were examined at Guy's Hospital, and declared by all who saw them opened, to be as perfectly free from putridity, and

as fit for all the purposes of dissection, as on the day when they were killed. It should be stated, that in these instances, as well as in the experiment with infusion of galls, a portion of fluid was injected *per anum*.

Having thus far perfectly succeeded, we resolved to obtain permission from the hospital authorities to make a direct experiment on the human subject, as soon as the weather became warm enough to test our method with sufficient severity. In the course of the spring, we were permitted to avail ourselves of the following opportunity:

On the 15th of May last, a convict at Woolwich, 23 years of age, died of inflammation of the bowels; and on the 18th, his body was sent, by order of the inspector of anatomy, to Guy's Hospital, for dissection. It was neither œdematous, nor in a state of decomposition; and although the integument was somewhat fat, it was, upon the whole, in a fair condition for anatomical purposes. On the 21st, a gallon of pyroxylic spirit was injected into the aorta; and the body was placed in a water-tight shell, or trough, made of slate, and loosely covered with a wooden lid. This trough was deposited in a cellar, the stone floor of which was about two feet below the surface of the ground. On the 29th the lid was removed, for the first time, and the body was found to be perfectly fresh. On this occasion, the flesh of the extremities was remarked to have become somewhat firmer than when the injection was first made. From the 29th of May to the 12th of June, the subject was examined, by removing the lid of the trough every two or three days; and no change was perceptible until the latter date. At that time the only sign of alteration was the appearance of two or three brown streaks—evidently veins—on the inside of the thighs; and a separation of the cuticle of the hands from the true skin, which began to assume a greenish hue. Every other part of the body was perfectly preserved, and of natural colour. There was no putrid odour on opening the lid of the trough, but the characteristic smell of the pyroxylic spirit was in some measure passing off. An incision into the middle of the right thigh, such as would be made in operating for popliteal aneurism, showed that the fat, muscles, blood-vessels, and nerves, were in a complete state of preservation. It should be observed, that ever since the injection of the subject the weather had been that of established summer; and that a second body received from Woolwich, was so decomposed in three days after its arrival as to be totally unfit for dissection. On the last examination, as well as on two or three previous occasions, fluid was observed to occupy the bottom of the trough, and this it was thought advisable to remove: it was likewise determined to throw another quart of pyroxylic spirit into the aorta.

On the 24th of June, the body was removed to the dissecting-room, and placed on the table, for the purpose of being thoroughly dissected. With the exception of a greenish appearance on the outer part of the left thigh, and the brown streaks already mentioned, it appeared, when brought into the light, perfectly preserved. The skin on the back of the hands, instead of putrefying, had dried, and become transparent; while the greenness of the left thigh proved, on incision, to be quite superficial. The dissection was undertaken by eight gentlemen, and completed by the 13th of July; and it is testified by them all that every anatomical purpose was as fully answered as if the subject had been quite recent. The various parts, on being laid open, were of natural colour and of firm texture. The tendons and ligaments were silvery and white, and the nerves had lost none of their tenacity. The pectoral muscles alone formed an exception to the natural colour which was elsewhere maintained: this appeared to be attributable to the macerating effects of a wetted cloth that had been laid upon the breast, to prevent evaporation through the aperture by which the injection had been accomplished. The parts which were exposed by dissection gradually dried; changing, in the course of a day or two, to a dark colour, and instead of putrifying, becoming hard. The brain, although it had retained its form, was soft, and semi-putrid, and unfit for demonstration: it must be borne in mind, however, that had the head been opened six days after death—at which period the subject was injected—this probably would have been the case. With the above exception, the viscera were all perfectly preserved: in proof of which, one

of the kidneys, appearing, in colour and consistence, quite recent, was removed in the beginning of July, and after maceration in warm water, in the usual manner, was injected with wax. This experiment was made in order to ascertain whether the spirit produced thickening, or any other alteration, in the inner coat of the blood-vessels; which was found not to be the case, as the wax had fully penetrated the tissues of the organ.

Of the gentlemen engaged in the dissection of this subject, one complained that he at first suffered headache from the odour which it exhaled; and some, who were not so engaged, considered this to be more disagreeable than that of putridity. The same opinion is sometimes expressed with respect to the odour of parts that have been macerated in spirit of wine. Some allowance in favour of the pyroxylic spirit should be made on the score of novelty; and since its vapour is not poisonous nor injurious, any more than that of spirit of wine, it is to be presumed that the student would soon become accustomed and reconciled to it. In a first trial, upon the human subject, of the antiseptic powers of this fluid, a natural desire existed, on our parts, of watching its progress, and of noting such changes as might gradually occur. This led to the necessity of opening frequently the lid of the trough: and it has already been remarked, that this by no means accurately fitted the trough itself. The pyroxylic spirit being of a very volatile nature, it is obvious that its preservative qualities were much diminished by this proceeding. It is, therefore, not too much to expect that in an air-tight vessel a subject thus prepared would not exhibit even those superficial changes which took place in this instance, and would be preserved for an indefinite period.

The advantages of employing pyroxylic spirit are, first, its extreme fluidity, in consequence of which it may be thrown into the minutest vessels. Secondly, its freedom from colour. Thirdly, its cheapness; for a gallon is sufficient to inject a full sized subject: and even with the present limited manufacture of it, it is only half the price of alcohol; while it possesses infinitely greater antiseptic powers, and is, in common with that fluid, miscible with water, in all proportions. Fourthly, its innocuous nature, and its freedom from any corrosive action upon steel instruments. We are not aware that there is any material disadvantage in its employment: the odour, it must be admitted, is more or less disagreeable to different individuals, but not so much so, to the generality of persons, as that of the putridity which it serves to prevent. Of this fluid, which must not be confounded with pyro-ligneous acid, or with pyro-acetic spirit, a full account may be found in the "Annals of Philosophy," N. S. viii. 69.—*Guy's Hospital Reports, Oct.* 1839.

PATHOLOGICAL ANATOMY AND GENERAL PATHOLOGY.

6. *Distinct Small Pox, followed in six weeks by an attack of the same disease in its confluent form, and terminating fatally.*—Dr. Renaud has recorded in the *Révue Médicale*, (February, 1839,) the following remarkable example of secondary small pox. A little girl, ætat. 28 months, was seized on the 24th of August, 1838, with small pox of the distinct form, which passed through its regular periods. The pustules left several well-marked cicatrices upon the face and neck.

On the 20th of October following the child suddenly lost its appetite, became dejected and morose, and complained of pains in the loins and hip. On the night of this day, as well as on the two following, she had convulsions. On the evening of the 23d some red spots were observed on different points of the surface; these increased in number and size on the 24th, and on the 25th became so well marked, as to leave no doubt as to the true variolous nature of the eruption. Professor Pelletan was now called in consultation, and assured himself of the reality of the first eruption, the cicatrices of which were still visible, as well as of the nature of the pustules. From this date the symptoms continued to increase, the eruption being confluent upon the face. Death took place on the night of

the 30th. What was still more singular in this case was, that the grandmother on the maternal side had been twice affected with small pox, and the mother, who was aged 26 years, and who nursed her child, believing herself out of all danger in consequence of having had small pox in her infancy, took the disease in its confluent form some days after the death of her infant, and died on the seventeenth day.

Remarks.—The occurrence of secondary small pox is indisputable, but the proportion in which it takes place requires further data to enable us to determine. Mr. Marshall, in a paper in the *Lancet*, states that of 896 cases of small pox, ten were cases of secondary, making this last so frequent as nearly 2½ per cent. Another writer, however, in the same journal, refers to 896 cases in which there was not a single case of secondary. The most authentic information we possess on the subject is in reference to the Würtemberg epidemic. In this, 634 persons were attacked with *true* small-pox, of whom thirty-nine had been affected with *true* small-pox at some previous period, being a proportion of one in sixteen. The nature of the first attack was determined partly from the evident traces of confluent small-pox on the body, and partly from the testimony of the medical men by whom the patients had been attended. Fourteen of the thirty-nine fell victims to the second attack.

In the epidemic described by Möhl, 153 out of 988 persons had a second attack of small-pox; thirty-one out of the 153 died. Here, however, the evidence of the first attack is far from being so precise as during the Würtemberg epidemic.

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7. *Enormous accumulations of fæcal matter in the Rectum.*—A woman, ætat. 50, was troubled with habitual diarrhœa; frequent desire to urinate, which could not be effected without pain, and the discharge was guttatim. Various remedies were resorted to without relief, and after upwards of six years' suffering, her medical attendant for the first time made an examination per anum, and to his great surprise found an accumulation of fœcal matters as large as an infant's head. This was removed, and weighed four pounds. After this the bowels became regular, and the discharge of urine free, and unattended with pain.—*Gaz. Méd. de Paris*, July 20, 1839, from *Medicinische Annalen.*

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8. *Effusion of Blood into the Substance of the Brain.*—Dr. Greene exhibited to the Pathological Society of Dublin a specimen of sanguineous extravasation into the right posterior lobe of the brain; the blood was coagulated, and the clot extended into the cornu ammonis, the surrounding cerebral substance being completely softened and discoloured. The patient was an adult female, who, while washing some linen, was suddenly seized with pain in the head and vertigo, and, after a few hours, with insensibility and coma, in which state she remained until the next day, when she recovered some slight degree of consciousness. She was admitted into hospital, with loss of intelligence, speech, and hearing; the left arm and leg were paralysed and insensible. Under treatment, she recovered a certain degree of sensibility and some slight power of motion; but, about the ninth day, she began to manifest symptoms of cerebral irritation: the scalp and face were hot; the carotid arteries pulsated strongly, and delirium was present. Upon the fifteenth day an eschar formed over the sacrum, and spread rapidly; she died very soon afterwards. Dr. Greene considered that, in this case, there was most probably a very small vessel opened in the first instance, so that the effusion of blood being inconsiderable, the patient, under treatment, improved a little, but manifested the symptoms of cerebral irritation more decidedly, according as the extravasation became more considerable. Dr. Greene considered that this case supported the opinion of Cruveilhier, that the patient, who may have recovered from a primary apoplectic seizure, may subsequently die of cerebral irritation in about eight or ten days.—*Dublin Journal, July*, 1839.

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9. *Laryngismus Stridulus.*—The pathology of this disease seems still unsettled. Whilst some physicians maintain that the symptoms entirely result

from enlargement of the thymus, others regard it as a spasmodic affection. It seems to us probable that enlargement of the thymus is not always present, but that it is a frequent cause of the disease. This view is sustained by the following cases, recorded in the *Dublin Journal* for July, 1839.

Dr. Thomas Beatty exhibited at a meeting of the Dublin Pathological Society, the recent parts from a child who had died of the disease in question. The rima glottidis was closed, so much so, that when the larynx was removed, from the body, and held up between the eye and the light, there was not the slightest appearance of an aperture; the thymus gland was free from disease; there was a considerable degree of subarachnoid effusion, with vascularity of the pia mater and cerebral congestion. The patient was ætat. $2\frac{1}{2}$, and had suffered from the disease, in a greater or less degree, for twelve months, and at length died convulsed.

At a subsequent meeting of the same society, Dr. Montgomery exhibited the thymus gland of a child, ætat. eight months, who died suddenly with the symptoms of laryngismus stridulus; it was excessively vascular, and in some parts very much indurated. According to Haugsted, the weight and measurement of the thymus gland in an infant of that age are as follow:—length, two and a-half inches; breadth, one and a-half inches; weight, twenty-seven grains. In Dr. Montgomery's case, the gland measured three one-fourth inches in length; two one-fourth inches in breadth; five-eighths of an inch in thickness, and weighed four drachms; the larynx presented no morbid appearance, but close to the commencement of the œsophagus were two small ulcers; the right ventricle of the heart was found, as Kopp has already remarked, empty and puckered; the veins of the neck were turgid, and a large quantity of serous effusion existed at the base of the brain. The child had been weaned at the age of three months, and had been subsequently, in Dr. Montgomery's opinion, over-fed—a circumstance tending materially to favour the development of the disease.

About five weeks after birth, it had been seen by Dr. Aldridge, who, from observing the tumefaction at the lower portion of the neck, warned the parents that the child would, most probably, be attacked with spasms. The child had experienced several attacks before that which proved fatal.

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10. *Sacculated Condition of the Bladder.*—Dr. Colles exhibited to the Pathological Society of Dublin the bladder of the late Dr. Percival, who for thirty years had been subject to urinary irritation.

Dr. Croker was aware that fifteen years ago this irritation was so troublesome, that when he had a call to make water, he was instantly obliged to go and empty his bladder. He did not, however, make any particular complaint of it until June last, when the calls to make water became exceedingly frequent and painful. At this period, too, he perceived, for the first time, that some blood escaped with the urine. This recurred frequently during the latter part of his life, but not to any great amount; and he used to observe to Dr. Colles, that after a discharge of blood in this way, he thought he was easier for some time, and had less distress in passing water. The blood always came away with the urine, and not before or afterwards, and was occasionally coagulated. Dr. Percival had a dislike to surgical operations, and would not permit the introduction of an instrument; he said he was content to bear his suffering, and would have it merely alleviated by some mild and simple remedy. The disease, however, gained ground, and latterly he was unable to make water except in the erect position. Hence, when he had a call, it was necessary to take him out of bed to put him standing up, and then by passing his finger under the perineum, and pressing forwards, he attempted to empty his bladder. It was a remarkable fact, that he was aware that he had two chambers in his bladder, and he mentioned the matter frequently to Dr. Colles. From the cast of the bladder which he presented, Dr. Colles said it was obvious that the bladder had in fact three chambers. The shape of the organ was very singular, and during life had contributed to throw a great deal of obscurity over the complaint. Whenever Dr. Percival permitted an external examination, a tumour could be generally felt

towards the right side of the abdomen, rising towards the navel. This could not be always felt, but when it could, it was in general very tense and firm, and communicated to the finger the feel of a solid body; at other times it was more flaccid. Dr. Colles thought at one time that it was some tumour which had formed in the pelvis, and that it was the cause of the distress felt by Dr. Percival. In this, however, he was deceived, for the tumour was caused altogether by the bladder. He was fully aware that on various occasions the bladder was over-distended, and that no urine had been passed for a considerable time, but he was unwilling to urge the introduction of an instrument, not from any dislike he had to catheterism, but he had frequently observed, that in old persons, who labour under no affection of the bladder except occasional distension, if an instrument be introduced, the patient will most probably require it again, and after a few introductions cannot dispense with it at all. The best plan which Dr. Colles knew was, to let the patient alone, and leave the matter to nature, by which the evil was in general remedied in a very short time. There was another circumstance which prevented Dr. Colles from using instruments. He had long entertained a suspicion that Dr. Percival was labouring under fungus of the bladder, and in such cases he always has a dread of employing the catheter. He recollected well the case of a gentleman, who came up to Dublin a few years since, labouring under fungus of the bladder. He went to different surgeons, and was sounded by each, and his bladder is now in the Museum of the College of Surgeons, with its entire cavity filled with a fungous mass. For these reasons Dr. Colles had never pressed the introduction of an instrument. He would now exhibit the bladder. The orifice of the urethra was surrounded by fungous excrescences, which, however, were not very remarkable in point of size. One of these was just at the orifice. The prostate gland was not particularly enlarged or indurated. The muscular coat of the bladder was fasciculated, or columnar, and there were several pouches formed in it from protrusion of the mucous membrane. On opening the bladder, three or four clots of blood were found in it, but no calculi of any kind. The appearance of the bladder, divided into different chambers by the protrusions of the lining membrane, was extremely curious, and might have led to mistakes in using instruments. Dr. Colles said that gentlemen would perhaps have some idea of the torture Dr. Percival endured by recollecting, that while in his senses he never made water except while standing, a position which was most painful to him, owing to the state of the hip joints. It was melancholy to reflect on the agony this amiable man must have endured, particularly during the last months of his existence.—*Dublin Journal*, July, 1839.

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11. *Cysts of the Bladder.*—Mr. Adams said that the specimen he was about to present was not similar to that exhibited by Dr. Colles, although it might be said to belong to the same class of affections. It was a bladder with a single and solitary cyst in the upper fundus. The preparation showed the cyst and that peculiar arrangement of the muscular fibres to which the French anatomists have applied the term "columnar bladder." This condition of the bladder may be produced by different kinds of obstruction, but more particularly by chronic strictures; in the case under consideration it had been produced by stricture. The subject was a man who had been three or four years in the House of Industry; he lay constantly on his back, and for some weeks before death, never passed urine, except with the aid of instruments; but he never complained of any pain in the region of the bladder; the bladder seemed to have lost much of its contractile power, so that when an instrument was introduced, he used to cough, and in this way expelled the urine *per saltem*. It was generally observed that the last drops voided had a fœtid smell, and were apparently blended with purulent matter; he also had a constant desire to pass water after the instrument had been withdrwn.

Mr. Adams presented a drawing showing the colour and villous appearance of the mucous membrane; in some parts it was red and vascular, and in others

it was of that peculiar slate colour so frequently observed in chronic inflammations of the mucous membrane.

Mr. Adams said he concurred in the views taken by Dr. Colles as to the abuse of instruments in cases of simple retention in old persons; but in this instance the catheter had not been employed until the power of the bladder was wholly lost. There were several preparations of the description he had shown in the Museum of the College of Surgeons, particularly one very remarkable one belonging to a patient who had been under the care of Mr. Kirby. One of the most interesting circumstances connected with the history of cysts in the bladder arose from their bearing on calculous formations. Calculi very often became entangled and lodged in them, so as to occasion great difficulty in the successful operation of lithotomy. This, however, had been disputed by Sharpe and Bowyer, who seem to think that it is only an excuse for bad surgery. It could not, however, be denied that stones were sometimes entangled in them. Mr. Peile performed the operation for lithotomy, in a case in which the calculus was lodged in one of those cysts; it retarded the operation considerably, but he succeeded in extracting it. Mr. Adams exhibited this calculus; the part which lay in the cyst, and that which projected into the bladder, were separated by a distinct line of demarcation. Mr. Peile saw another case of the same kind, which did not terminate so favourably; great difficulty was found in extracting the stone, and the patient died of peritonitis forty-eight hours after the operation. A case has been detailed by Sir Benjamin Brodie in his lectures, in which the stone was adherent to the cyst, so that he was obliged to introduce a blunt pointed bistoury and separate the connection, before he could remove it.—*Ibid.*

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12. Mr. Ceeley's *Experiments with Small-Pox.*—On the 1st of February, 1839, Mr. Ceeley inoculated with small-pox matter (*variola discreta*), of the seventh or eighth day, three young heifers; a fourth was at the same time vaccinated.

Mr. Ceeley made seven punctures, and introduced fourteen points near the left *labium pudendi*, and on the same day inserted two setons with matter from the same subject. On the ninth day after this process, he vaccinated the same animal on the right *labium pudendi*; with fifth, sixth and seventh day's lymph from a child, in seven punctures, with fourteen points; and below the pudendum in four punctures, with eight points. On the tenth day after the insertion of the variolous matter, one of the punctures near the posterior margin of the left *labium pudendi* had assumed the form of the natural vaccine vesicle. By gently removing the central irregular crust, and carefully puncturing the cuticle, he was able, in the course of an hour, to charge thirty-eight points with lymph, and on the same and subsequent days to use part of it on children and adults. On the thirteenth day the small-pox vesicle was more inflamed and florid; this was the fifth day after the insertion of the vaccine lymph, at which time all the eleven punctures were converted into effectual vesicles; from these he took fine clear lymph, and used it on children and adults. Both the variolous and vaccine vesicles subsequently ran nearly a parallel course; so that on the twenty-sixth day of the former, and the seventeenth day of the latter, the scars of both appeared perfectly similar.

To obviate objections which might arise from the insertion of the vaccine lymph on the ninth day after the inoculation with the variolous matter, Mr. Ceeley re-inoculated a sturk on the 15th of February with small-pox matter, of the seventh or eighty day, on the *labium pudendi*. He made eight punctures, which were deluged with the variolous fluid from the capillary tubes. On the fifth day the four upper punctures were enlarged and elevated; the other four were less so. On the sixth day all presented the appearance of the vaccine vesicle. From one of them he took lymph with difficulty, and scantily charged thirty-nine points. On the eighth day he again took lymph from the vesicle opened on the sixth. On the ninth day the vesicles were enlarging, and he again opened carefully the first vesicle and charged twenty points. On the

tenth day the four lower vesicles were increasing, and from them he charged twenty-seven points. After this time the brown crusts appeared, and the disease gradually declined. This animal was subsequently inoculated, both with variolous and vaccine matter, but no result followed.—*Report of the Vaccination Section of the Provincial Medical and Surgical Association.*

13 *On Pus in the Blood, in diseases attended by Inflammation and Suppuration.* By George Gulliver, Assistant Surgeon to the Horse Guards.—In the prosecuting an inquiry in which I have been long engaged, concerning inflammation and suppuration, I soon perceived the necessity of carefully examining the blood in these affections, and particularly in inflammatory fevers and hectic.

The result has been the detection of pus in the blood in almost every instance in which there was either extensive suppuration or great inflammatory swelling, without a visible deposition of pus in any of the textures of the body; and the contamination of the blood by pus appears to me to be the proximate cause of the sympathetic inflammatory, sympathetic typhoid and hectic fevers. The profession is now familiar with cases in which pus has been found in the veins, particularly after surgical operations, and in uterine phlebitis; but, although the humoral pathology has of late years begun to assume some of its ancient importance, I am not aware that any writer has attempted to demonstrate the dependence of the fevers under consideration on the presence of pus in the blood.

I have detected pus in the blood, by examinations very simple—partly chemical, partly by the microscope. Water has a rapid and energetic action on the blood-corpuscles: now, the globules of pus undergo no change after being long kept in water; accordingly, if the suspected blood be mixed with water, the blood-corpuscles will soon become invisible, and any globules of pus that may be present will subside to the bottom of the vessel, and may be easily seen, and have their characters determined, with a good microscope. Ammonia instantly renders the blood-corpuscle invisible, while that of pus is acted on but slowly by the alkali; and the different action of acetic acid on pus and blood is equally remarkable. Hence, I have employed these agents advantageously in conjunction with the other means; and I have also seen pus-globules in the blood, though rarely, without any preparation. With water, however, the examination is most easy, if the observer be thoroughly familiar with the microscopic characters of the fluids under examination. A good instrument, nevertheless, is necessary; and the admirable deep object-glass of Mr. Ross is the one I have principally employed. It is hardly necessary to add, that chyle-globules are not likely to be mistaken for those of pus, since, independently of other distinctions, the medium diameter of the latter is at least 1-2666ths of an inch, which is above twice that of the former.

Exp. 1. A weak solution of corrosive sublimate is injected into the subcutaneous cellular tissue of a dog's thigh. Great swelling of the limb. Death in twenty-four hours. In the cellular tissue of the thigh, no purulent deposit. Several pus-globules detected in blood obtained from the heart.

Exp. 2. A dog. Both tibiæ injured by operations; great swelling of the limbs; violent fever; death after forty-three hours. Fibrine found effused into the cellular tissue of the extremities, mixed, in one, with a very little purulent matter. Blood from the vena cava contained numerous globules of pus.

Exp. 3. An irritating fluid; injected into the peritoneum of a dog. Great thirst; refused food; died in three days. A large quantity of coagulated lymph and sanguinolent serum, with some pus, found in the belly. In blood from the inferior cava vein many globules of pus were seen.

Exp. 4. Two ounces of pus injected into the left pleura of a dog; carefully confined there; thirsty and feverish for fifty-five hours. Then killed; one ounce of fluid, almost entirely serum, found in the pleura, and some fibrinous exudation on the membrane. Blood from the heart and vena cava, found to contain several pus-globules.

Exp. 5. A dog; four and a half ounces of pus injected into the peritoneum; wound carefully closed; death in thirty-seven hours. Only nine drachms of a

sero-sanguinolent fluid found in the peritoneum, and much coagulated lymph on the membrane. Pus detected in the blood.

Exp. 6. A dog; half a drachm of pus, mixed with water; half an ounce gradually injected into the crural vein. Some fever followed; refused solid food for two days; recovered at the end of a week. A similar experiment with pus on the other crural vein; similar symptoms, and perfect recovery.

Exp. 7. A dog; six drachms of pus injected into the crural vein. In a few hours, very weak, stupid, thirsty, and refused food. In thirty hours almost insensible; respiration was hurried. Death in thirty-six hours. In the blood of the inferior cava some pus-globules were readily detected.

Case 1. A girl died of confluent small pox on the ninth day of the disease. Great swelling of the integuments. In the blood of the right ventricle, numerous pus-globules.

Case 2. A woman had confluent small-pox, uncomplicated with erysipelas or inflammation of the viscera. On the eighth day, in some blood drawn from the arm, several pus-globules were found.

Case 3. A male child, ætat. 15 months, died on the ninth day of small-pox. Only a few imperfectly developed pustules appeared. There was considerable swelling in the face, slighter in other parts. *Post-mortem:* a small quantity of a white opaque fluid might be squeezed from the cut surfaces of the lymphatic glands of the neck and groin, having the characters of pus. In some blood from the right ventricle and inferior cava vein, pus was detected.

Case 4. A woman died of puerperal peritonitis. The peritoneum contained a large quantity of coagulated lymph, serum and purulent matter. Pus in blood from the right ventricle of the heart.

Case 5. J. Green, ætat. 27, admitted into the hospital with an ulcer of the leg. In seven days the limb began to swell; hardness in the femoral vein; some redness in the absorbents on the inner side of the thigh. The swelling increased gradually; he had, first, pain in the head, thirst and quick pulse; then purging, pain in one wrist, with restlessness, incoherency of speech and offensive breath. Low muttering delirium, accelerated respiration and coma, preceded his death on the twelfth day after admission. *Post-mortem:* the large veins of the limb were occluded throughout by firm clots of blood, mixed with pus and coagulated lymph, and the lining membrane of the femoral vein was in many places red and coated with fibrine. Several purulent deposits presented in the sheath of the femoral vessels, and in the intermuscular cellular substance. In blood from the right ventricle and vena cava, globules of pus were found.

Case 6. James Hawke, ætat. 22, superficial wound of the tibia; pain and swelling. Pus in the subcutaneous cellular tissue. The case terminated fatally. Dissolution was preceded by subsultus, collapsed face, accelerated breathing, hiccough and coma. The swelling was found to be produced by effusion of fibrine and sanguinolent serum. Pus-globules in blood from vena cava.

Case 7. M. Jackson, ætat. 42. Erysipelas of the face, succeeded by jaundice and effusion into the pleura. Listless and low, with accelerated respiration. Death in six days. An ounce of turbid serum, with a little purulent matter in the right pleura; eight ounces of sanguinolent serum in the left. Blood from the larger veins greatly contaminated with pus.

(Notes of four other cases are recorded.)

The preceding instances by no means comprehend the whole number in which I have found pus in the blood. The observations of Dr. Davy tend to confirm their accuracy. He detected pus in the blood of consumptive patients, after my general results had been submitted to him, but before I had turned my attention to the state of the blood in phthisis. He has lately informed me that he has found pus in the blood in seventeen instances after death, in sixteen of which there was declared suppuration, and in one none could be detected; in the latter, the patient died of acute inflammatory disease. The opinion has often been expressed in this country, that the globules of pus are nothing but those of blood, modified by the inflammatory process. On the continent, M. Gendrin adopts

the same theory, supported by very ingenious experiments, which have been generally considered conclusive on this subject.

I have repeated the experiments of M. Gendrin with great care, and although I see no reason to dissent from the above conclusion, I have not observed the phenomena related in his work. By cauterising the web of a frog's foot under the microscope, or by elevating on a lancet the edge of a wound in the part, he assures us it is as easy to see the blood-particles gradually transformed into those of pus. I have not succeeded in this observation. After repeated trials I could not induce suppuration in batrachian reptiles.

With regard to the conversion of clots of fibrine into pus (according to M. Edwards,) some experiments render it extremely probable that the matter often found in the centre of such clots, in the heart and great vessels, is nothing more than softened fibrine, which presents neither the chemical nor the microscopical character of pus.

In idiopathic or traumatic phlebitis, the manner in which pus may become mixed with the blood is obvious enough. There are cases to which the term phlebitis is commonly applied, which are probably not examples of inflamed veins. The total failure of inflammation in them would seem to have left open their wounds, so as to favour the entrance of pus into them from the neighbouring parts.

I think my experiments will render it probable that suppuration is a sort of proximate analysis of the blood. Suppuration would appear to be a physiological rather than a pathological phenomenon—pus being an excrementitious discharge—a part of the blood which has become effete and noxious during the reparative process.

With regard to the correct observation of Müller, that the smaller capillaries have only the diameter of a blood-corpuscle, I shall show that these vessels become sufficiently enlarged during inflammation to contain a row of pus-globules.

If it should be remarked that pus is often formed without any obvious addition of fibrine to the neighbouring parts, it should be recollected that this is not a healthy, but a diseased form of suppuration; and the distinction and explanation are not difficult.

It remains to deduce the conclusions from the experiments and observations related in this paper.

The term *Suppurative Fever* is not new, and its signification is probably now extended; for it seems to be an appropriate one for the different forms of constitutional disturbance under consideration. If the presence of pus in the blood, and the fever in these cases, be not related as cause and effect the coincidence would appear to be no less interesting than remarkable.

In small-pox, it is a popular belief that "the striking in," as it is termed, or suppression of the pustules, is a bad symptom; and this is so far true, that the worst cases of this disease are those in which there is great swelling of the integuments without the due formation of pus in the usual situation. In every instance in which I have examined it, I found pus in the blood of patients affected with small-pox.

In the fourth and fifth experiments the pus which was injected into the serous sacs would appear to have been absorbed. A more careful inquiry, however, would be requisite to warrant this conclusion.

I have related instances of pus in the blood, independently of suppuration out of the vessels; this fact appears to be of some importance, for it must be inferred that the pus was not absorbed, but formed in the blood.

Of the inflammatory, hectic, and low typhoid fever, it seems hardly necessary to observe that they appear to be all comprehended under the common designation of constitutional irritation, in the interesting work of Mr. Travers, which I had not read till my attention was directed to it by Mr. Liston, after this paper was written. Under the term of typhoid, I have included that grave form of fever in which the vital powers sink rapidly, as I believe, from somewhat sudden

and extensive mixture of pus with the blood, as sometimes occurs after operations on veins, or amputations, or even independently of wounds.

I cannot conclude this paper without expressing a hope that it will lead to a still more careful and extensive examination of the blood in various diseases than has hitherto been attempted. The microscope may become as important an instrument to the pathologist, and even to the medical practitioner, as the stethoscope. If my results should be confirmed, it is hardly too much to expect that some important discovery, particularly in diagnosis, may be made by a patient investigation of the blood in many malignant diseases, such as cancer: it is not long since the urinous fever, as it is called, was found to depend on the accumulation of urea in the blood.—*Lancet*, Sept. 21, 1839.

MATERIA MEDICA AND GENERAL THERAPEUTICS.

14. *Clinical Experiments on the Emetic and Sudorific Properties of the Hydrated Sulphuret of Antimony, with excess of Sulphur.*—From a series of experiments of which the individual results are given in a table, Dr. M. A. Toulmouche draws the following conclusions on the properties of this salt:

1. This preparation of antimony acts with greater certainty as an emetic, when given in doses of one or two grains, than when exhibited in larger quantities.

2. It induces vomiting in smaller doses than kermes.

3. Its emetic action, although less uncertain than that of kermes, is still far from sure, inasmuch as it is only developed in somewhat more than half the cases of its administration.

4. It acts much less frequently as a purgative than as an emetic; whereas the contrary is true of kermes.

5. Like the last named compound, it may be given with impunity in large doses, and in other affections besides rheumatism and pneumonia; in these cases its emetic and purgative effects appear to diminish in proportion to the increase of the dose.

6. The sudorific properties attributed to it by writers on materia medica are by no means incontestable; in 102 cases of its exhibition it acted on the skin thirteen times only.—*Br. and For. Med. Rev.* from *Gaz. Méd. de Paris*, April, 1839.

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15. *Styptic Action of Creosote.*—Drs. Muller and Reiter have lately instituted a series of experiments for the purpose of ascertaining the styptic properties of creosote, when applied directly to a bleeding surface. The hæmorrhage from the division of the crural vein in dogs was found to be arrested by the application of a plug of cotton, which had been well moistened in the creosote.

In the case of divided or wounded arteries, it was necessary to keep up a certain degree of compression for some time, in order that the creosote might be able to act upon their parietes. Upon examining the cut arteries afterwards, they were always found to be quite closed or obliterated at the part, exhibiting outwardly an umbilical depression, which corresponded with a conical shaped coagulum within: the coats of the vessel were usually inflamed for the extent of an inch or so.

The creosote was found to be a more decided and secure *hæmostatic* remedy than the far-famed aqua Binelli. *Creosoted water* sufficed to stop the bleeding from an oozing surface, when no large vessels had been divided. When creosote was injected into veins, the blood was found to be instantaneously coagulated.

Professor *Schneider*, of Munich, had recently an opportunity of using creosote as a styptic in one of his patients. An old man was subject to most profuse hæmorrhage from the mouth. He had lost several pounds of blood, and a variety of means had been ineffectually tried to arrest the hæmorrhage.

M. *Schneider* made him fill his mouth with water charged with creosote (*eau creosotée*); after the third mouthful, the bleeding ceased, and did not afterwards return.—*Med. Chirurg. Rev., from Schmidt's Jahrbucher.*

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16. *Formula for Internal Administration of Turpentine.*—℞.—Olei terebinth. ʒiss or ij; Magnesiæ carbonat. ʒj. Tere simul et adde Aq. menth. sat. ℥v; Syrup limonum ʒij; Spts. lavend. comp. ʒij. Misce; sumatur pars quarta ter die.

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17. *Citrate of Quina.*—This is recommended by Prof. Beraudi in intermittents as equal, in one-third the dose, to the sulphate in effect, as being more easily borne by the stomach, and further as causing less congestion of the brain. —*Bull. Gén. de Thérap.* from *Schmidt's Jahrb.*

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18. *On the Medical Properties of Aloes.* By G. G. Sigmond, M. D.—The operation of the different varieties of aloes upon the system, though differing in intensity, is precisely similar as to its nature; although they are all perfectly soluble in fluids, whether of an aqueous or of a spirituous kind, they do not seem so immediately to be dissolved in the human stomach, and hence the slowness of their operation, generally speaking twelve or sixteen hours elapsing before their effect is decidedly exhibited. It has been, and is still an interesting question upon what viscus does aloes more immediately act? Whilst some confine its power to the rectum, others believe its agency to be upon the liver; by some it is not believed to be entirely dissolved until it has reached the receptacle of the residue of the ingesta, which cannot be incorporated into the system. Its influence upon the liver is certainly marked by the peculiar condition of the evacuation, which shows evidently, both by its colour, by its odour, by the peculiar pungent effect upon the anus, that an increased quantity of bile has been poured forth. That it acts upon the vena portarum is fairly to be deduced from the very peculiar state into which the hæmorrhoidal veins are thrown by the congestions which so rapidly occur after a dose of this drug has been taken, and also by the condition of the uterine vessels which has led to its employment as an emmenagogue. It is not easy to ascertain whether this specific influence upon the venous system is the cause of the cathartic power possessed by it; we find, however, that some connection exists, and that the more the large intestine is stimulated to pour forth its contents by its action, not by the largeness of its dose, the greater is the relief afforded to the sanguiferous system; hence its great value in determination of blood to the head, in venous congestions, and its superiority over medicines of somewhat a similar nature, and hence, too, the caution necessary in its administration. The slowness of its action renders it sometimes to us of much importance, from our power of giving it in some states in which it is to be given at night, and its operation is not required until the morning; the smallness of the volume in which it may be used, the shape of pill into which it is so easily made, and which disguises so well its bitterness, are all of them subjects worthy our consideration.

From the circumstance of the alkalies and the carbonates rendering it more soluble, it is often combined with them, and we are hence furnished with weapons which, used with skill and care, enable us more certainly to combat disease. Thus, with soap, although we may diminish its intensity of action, we render it more quickly purgative. If, with Dr. Hamilton, we cannot quite agree that it is almost a universal remedy, that the most formidable maladies will yield to its effects, still it is to be acknowledged that in a vast number of chronic disorders it is invaluable; that in the obstinate constipation to which the artist, the student, the aged, and the sedentary are subject, from inactivity of the liver and of the sanguiferous system, it is, under the control of the skilful medical man, a drug which deserves the highest commendation; and though from its abuse in the vast number of quack medicines and patent pills, it has been the source of mischief, and has been occasionally condemned, we possess

nothing that we could substitute for it that has more claims to our consideration.—*Lancet*, August 11, 1838.

19. *Medical Properties of Copaiba.* By G. G. Sigmond, M. D.—The physicians of the last century entertained a very high opinion of balsam of copaiba as a cure for diseases in which it is now seldom if ever employed. Among other morbid states in which it was recommended by some, but objected to by others, was consumption; and there were many individuals of high eminence who took up different views of its power. Amongst those who were sanguine as to its effects was Dr. Fuller, the author of a work very highly prized in its day, entitled, "Ars Præscribenda, sive Pharmacopœia Extemporanea Reformata;" his language in the praise of the remedy is of the most laudatory kind. Hoffman, Munro, Simmons, also joined in extolling it; on the other hand, Pringle, Rosenstein, Tissot, Fothergill, and Quarin, thought it even prejudicial. The consequence of this division of opinions has naturally been to look to other means; in the language of Murray, "Tutissimum igitur est inter vituperium et laudem virtutis antiphthisicæ balsamorum medium procedere." In modern days some of our eminent physicians have given the balsam of copaiba in chronic affections of the larynx and trachea; and it would altogether seem to exert a powerful influence upon mucous membranes, restoring their power of healthy secretion. Dr. Armstrong was one of the most conspicuous of those who recommended it; he seemed to think it exerted a specific effect on the mucous membranes. Dr. Fosbroke, of the Ross Dispensary, Herefordshire, entertains a high opinion of copaiva in affections of the mucous membranes of the pharynx and larynx of a low, old, and chronic character.

Mr. Selwyn, of Ledbury, a leading general practitioner in that county, employs copaiba with rapid success in the lingering muco-purulent secretion in the last stage of mucous catarrh, in elderly persons, upon the same principle as he would employ it in blenorrhœa.

Dr. Hastings, of the Worcester Infirmary, in his very valuable "Treatise on Inflammation of the Mucous Membrane of the Lungs," thus expresses himself: "Dr. Armstrong thinks that the copaiba deserves to be conspicuously placed amongst the internal medicines, as it exerts a specific influence on the mucous membranes. It has failed with the author in producing so much benefit as he was led to expect from Dr. Armstrong's report. Whenever there is much fever it appears to be increased by this remedy, and it does not always allay the cough, or alter the expectoration. It frequently disagrees with the stomach when given in sufficient doses to benefit the pectoral symptoms, and sometimes a diarrhœa comes on under its use; occasionally it produces all the troublesome effects without relieving the cough. But the balsam certainly seems to exert an influence on the mucous membrane, although, perhaps, not a much greater one than the squills or meadow saffron."

Dr. La Roche has, in one of the numbers of the "North American Journal," given us some valuable cases illustrative of this power; one of Mr. Roberts, a gentleman, twenty-two years of age, is particularly interesting; the symptoms were of the most aggravated character; nocturnal sweats, extreme debility, difficulty of breathing, copious expectoration, were present, and resisted every treatment that could be suggested; these began to disappear after two weeks' administration of large doses of copaiba, and three months were sufficient to restore him to perfect health.

Balsam of copaiba has been employed with some success in dropsy; the cases on record, however, are not numerous; the most remarkable one is that of the celebrated Mutis, which has often been alluded to; whilst practising at Santa Fe, he gave it, commencing by small doses to the extent of a large spoonful morning and evening, to a female labouring under ascites; she drank immediately after a glass of barley-water: this excited the kidneys into extraordinary action, and in the course of forty days she was perfectly cured.

In diseased states of the mucous membranes of the intestinal and urinary passages this is one of the most serviceable medicines we possess; in affections

of the rectum, in which the lining membrane is the principal seat of disorder, we obtain from it more relief than from any thing we possess; hence its use in some states of hæmorrhoids; it does not, however, act where the tumours are the sole cause of the anguish and uneasiness. As long as these remain in a turgid state, and by their mechanical obstruction add to the mischief, you are not to expect to derive any particular advantage, but as soon as these are reduced, and when the relaxation of the internal membrane is a source of mischief, you are to have recourse to it. In ulcerated states it is most valuable—in chronic inflammations, and in that peculiar condition which has occasionally been consequent upon the undue action of very active cathartic remedies, where the mucous lining of the intestine has been discharged, almost in the form of the bowels, in that condition which Dr. Good has called diarrhœa tubularis, this has attended upon large doses of the oil of turpentine to dislodge tape-worm; upon the injudicious employment of doses of gamboge, it leaves the subjacent tissue in a most irritable state, so that any evacuation is attended with a high degree of suffering; for this the balsam is to be given either by the mouth or by injection. Where, from the long existence of hæmorrhoids, the verge of the anus is in a very irritable condition, surrounded by small papular eruptions, which keep up an intolerable itching, where the morbid state is evinced by an inordinate quantity of perspiration, which is sometimes so great as almost to lead to a belief that there is a mucous discharge, the same treatment is to be pursued. You had better first, however, allay the itching, which may be done by a local application of one part of creosote to three parts of the balsam of copaiba, which must, by agitation, be mingled together.

In gonorrhœa, after the inflammatory stage has in a great measure been relieved, you may administer this therapeutic agent, but it ought not to be commenced with until free purging has taken place; there are many practitioners, nevertheless, who consider that it may with safety be given during the inflammatory stage, and with decided success. It has been stated that incipient gonorrhœa has been cured in two or three days by a drachm of the balsam of copaiba, night and morning, and that obstinate gleets have yielded to it in fifty hours. Dr. Dawson, of Sunderland, adopted this mode of treatment on a large scale, and communicated it to Dr. Armstrong, who became its warm supporter. That in many instances this plan of treatment may, without doing any mischief, be followed, I have no doubt whatever; still there are many instances in which very bad effects have resulted from it, such as the swelling of the testicle, high irritation of the bladder, and also acute rheumatism.

I believe that great surgeon, who has been the ornament of the English school for so many years, Sir Astley Cooper, was one of the first who pointed out the existence of what is called gonorrhœal rheumatism, though it is not an unfrequent disease. He met with a case of an American gentleman, who had both the ophthalmia and the rheumatism, which has sometimes since been found to supervene upon gonorrhœa, and it made a strong impression upon his mind, more particularly as he had not found any description of it in any surgical work. He observes that it requires the same remedies that are used in gonorrhœa, either the spirit of turpentine, the balsam of copaiba, or olibanum; those who have since that period watched the nature of these affections, have ascribed them to causes quite independent of the original disease; and amongst those that have been suggested, and with every reason to believe in the soundness of the observation, has been the use of the balsam of copaiba, which has caused that degree of rheumatism which would be called gonorrhœal.

This form of disease has been very well described by Dr. Titley, who, however, ascribes it to the suddenly ceasing the use of cubebs, or copaiba; he observes, "that the pain and swelling are more especially confined to the knees and ankles, though, in some instances, the symptoms are more diffused, the pain is more acute, and the general disturbance of the system more violent; there is often much puffiness and tenderness of the ankles, especially towards evening; the skin is not externally red, and the pain is not much increased on pressure; the pulse is quickened, the stomach becomes disordered, and the appetite declines,

or altogether fails." There is a very good paper on this subject, showing that gonorrhœal rheumatism is copaibal rheumatism, with some cases, from the pen of Mr. Eagle, of the Poultry, which is to be found in one of the volumes of THE LANCET; it contains some very interesting information with very fair and just reasoning. Mr. Maddock has likewise favoured us with the result of his observations through the same channel, and he has seen no one instance of gonorrhœal inflammation, unless copaiba had been antecedently administered. One of the effects of the administration of copaiba has been an eruption of papulæ, and sometimes of pustules in large patches. Mr. Judd has given us instances where, when this remedy had been taken, the stomach has become deranged, and then the skin affected; in one instance the copaiba had been only taken a week for gonorrhœa, when itching, tingling, aud irritation, with pain in the limbs, came on; a very vivid mottled state of skin almost immediately followed the latter symptom, and covered his whole person a capite ad calcem. Mr. Judd has, in his very useful work entitled "A Practical Treatise on Urethritis and Syphilis," which deserves a much higher place in the medical works of the day than many others which have a greater character, exhibited a most interesting plate of the puniceous mottled skin from copaiba, drawn from a case which presented itself to him, and likewise another of the eruption of papulæ; these are well worthy your attentive examination. You must bear in mind that the puniceous eruption from copaiba seldom lasts beyond the ninth day, and that where eruptions of the skin follow upon gonorrhœa, they do not occur much before three weeks have elapsed from the imbibition of the gonorrhœal poison. Although under such circumstances you may lessen the dose of copaiba you need not discontinue it, for it will not aggravate the eruption which will run through its course. Where gonorrhœa has been attempted to be thus cured too early, the synovial membrane of the knee-joint is very apt to become inflamed, and this is often called metastasis; but if you examine into all the circumstances, you will find that the balsam of copaiba has been given before the inflammatory state of the mucous membrane of the urethra has been reduced. In the gleety discharge which follows upon gonorrhœa, nothing is more likely to be serviceable than the copaiba; it is not, however, so good as the diosma crenata, or buchu, in that which is not dependent upon a specific poison, but is the result of debility, where, from some causes, there is a weeping or actual catarrh from the urethra, which is rather consequent upon a long-continued chronic inflammation than from the acute one caused by gonorrhœa. You must remember that John Hunter shows how necessary it is to persevere in its use, and to recur to it even after the shadow of a suspicion of latent mischief has disappeared. When your patient says there is not the slightest discharge, and you allow him to leave off his dose, impress upon his mind that in about ten days he must return to it, or else he may be harassed for months by a relapse, after he has indulged in a good dinner, has rode on horseback, or has even followed any ordinary occupation with greater earnestness than usual. Hunter says, "I have known cases where the gleet has immediately disappeared upon taking the balsam, and recurred upon leaving it off; and I have also seen where that medicine has kept it off for more than a month, and yet it has recurred immediately upon laying it aside, and stopped again as quickly upon having recourse to it." The sweet spirit of nitre, with camphor mixture, determines the copaiba very speedily to the urinary apparatus, and forms one of the most useful modes of giving it for a great length of time; it may be discontinued, and then again had recourse to with good effect.

Dr. Daniel Turner, whose name I have had occasion to mention to you, was one of the early employers of this remedy, which he gave with sugar in the form of paste in gleets with very great success; and this mode of using it is very excellent, for it disguises the excessive nauseousness of the drug. Shortly after it has been taken, the stomach becomes qualmish; in some instances there is excessive nausea with flatulence, occasionally palpitations of the heart have been complained of; the eructation, which is very offensive, shows that this has depended upon momentary pressure upon the diaphragm; the bowels are

not unfrequently much acted upon, whilst the urine acquires a very peculiar odour, such as that which the violet exhales, only much more powerful. Much of the efficacy of this medicine will depend upon its mode of administration and upon its purity; combined with the liquor potassæ it often agrees well with the patient. Dr. Chapman recommends it to be dropped on half a wineglassful of water, to which is to be added, slowly, a few drops of a bitter tincture, by which means the copaiba is collected in a small globule which is easily swallowed, and it does not communicate any disagreeable impression to the palate. It was used amongst the Americans at a very early period as an injection into the urethra for gonorrhœa, and Jacquin was able to bear testimony to the success of this practice; it has been, since that period, frequently thus used with considerable advantage, but always after the inflammation has subsided, many very obstinate gleets have completely yielded to this. On the common mucous discharges from the vagina this agent does not exert any specific effect; they are, for the most part, dependent upon the state of the general health, and though to be restrained by local applications, in many instances demand constitutional treatment; and where copaiba is, in such instances, injudiciously given, it may keep up a high state of irritation, and be productive of much mischief; where these discharges are dependent on irregularity in the habits of life and a want of cleanliness, this is to be avoided; but in the discharge from gonorrhœa it may be employed even in the stage of inflammation with less circumspection than in the male. Although we hear of very large doses, you will find from fifteen to forty drops, two or three times a day, quite enough. Schewdiaur, who had very great experience in disorders of the reproductive system, gave from fifty to one hundred drops morning and evening: a drachm generally acts very quickly upon the bowels. It has been given also in large doses for affections of the kidneys, for gravel, for paralysis; it has been externally applied for the cure of wounds, for the healing of abscesses; and Hoppe states that, where sinuses exist, they are often very speedily healthily filled up if the dressings contain some portion of the balsam. In wounds of the tendons and nerves, where trismus has occurred, its local application has been said to soothe the system and very speedily to remove the spasm; it has likewise been spoken of as an external application to paralysis of different muscles; and a liniment formed of it has been known to stimulate some parts into action that had apparently lost their power. It has been said by Ratier, that the value of copaiba is diminished by any quantity of fluid, and, therefore, attempts have been lately made to give it entirely in the solid form; but this is a great mistake, for the stomach demands much more power to dissolve it than in a fluid form, and dyspepsia very often occurs after a very few doses; sugar is, however, a good assistant to it; or, as Ratier recommends, a teaspoonful of wine, and this is to be taken without giving any drink if possible. Stimulants should generally be avoided whilst this drug is taken, and every thing that can determine much to the kidneys and bladder, which have occasionally been much irritated by it. Blisters should be avoided during its use, for strangury is likely to supervene; its bad effects are best obviated by the free use of camphor, or may be checked by opium or hyoscyamus. —*Lancet*, Sept. 8, 1838.

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20. *Syrup of Ioduret of Iron.*—The ordinary solution of ioduret of iron is so speedily decomposed as to render its administration troublesome from the necessity of frequently renewing it; and the dose is also uncertain. M. Frederking has published in *Buckner's Repertorium fur die Pharm.* (1839), a formula for the preparation of a syrup of this salt which even when exposed to the air remains undecomposed for upwards of three months. This formula is as follows: Take of pure iodine one hundred grains; iron filings fifty grains; distilled water one ounce. Digest these for some time, filter and wash the ferruginous mass with a little distilled water; unite the fluids and add half an ounce of sugar; then evaporate down to one ounce. This syrup united with powdered marsh mallow makes a good pilular mass, or mixed with water, a clear solution. Four parts of this syrup contains one part of ioduret of iron. Hengel has

observed that the syrup becomes brown; but sometime afterwards its clearness is restored without any precipitate of oxide of iron.

SPECIAL PATHOLOGY AND SPECIAL THERAPEUTICS.

21. *Paraplegia Cured by the Use of the Secale Cornutum.*—Our preceding No. p. 205, contains some observations on the efficacy of ergot in paralysis. The following cases, which afford additional evidence to the same effect, are from a late No. of the *Révue Médicale.*

Case 1.—A man, ætat. 72, was admitted into the Hôtel Dieu at Aix, with so little power in his limbs that he could scarcely maintain himself erect. The sensibility too of the limbs was much impaired. A variety of local and general remedies had been tried, but without advantage. M. Arnaud directed him to take an infusion of a scruple of ergot of rye every morning early. After a week's use of it, there was a manifest improvement in the patient's condition; and at the end of the third week—the dose had been increased to half a drachm—he could walk about the ward, and go up and down stairs with the aid merely of a stick.

A sense of pricking and occasional involuntary twitchings of the muscles of the limbs were experienced during the use of the remedy.

Case 2.—A soldier, while on ship-board, fell backwards on a beam of wood with such violence as to stun him; the loins were very severely bruised. By the employment of quietude, leeches to the part, &c. the local symptoms were speedily relieved; but there remained an almost complete loss of power in the lower limbs, so that not only the patient could not support himself on his feet, but he was unable to raise either leg from bed.

An infusion of the ergot was, therefore, ordered to be taken every morning.

An amendment had manifested itself at the end of a week or ten days, when the use of the medicine was discontinued by the direction of another physician, who ordered the moxa to be applied on each side of the lumbar vertebræ.

Three months afterwards the state of the patient was not at all improved. The use of the ergot was now resumed, and the dose was gradually increased from 15 to 60 grains. This treatment was persevered in for five or six weeks, at which time the patient was entirely cured of all paralytic weakness.

Case 3.—A man, ætat. 26, had been for two years labouring under disease of the spine, (Pott's disease,) which was ultimately arrested by the use of caustic issues, &c. A great weakness of the lower limbs, however, remained behind, so that it was only with extreme difficulty that he could walk. As the disease of the spine seemed to be quite got the better of, the weakness was attributed to a mere atony of the muscles from the long-continued inaction which had been necessary during the treatment. A fortnight's use of the ergot restored him to the perfect enjoyment of his muscular strength.

Case 4.—In this case a degree of paraplegia had remained after a severe bruise of the loins. When all the inflammatory symptoms were completely removed, the patient commmenced the use of the ergot; in the course of a fortnight the paralytic weakness had quite ceased.

Remarks.—The directly stimulating effects of the ergot on the uterus, bladder, and lower extremities, cannot be questioned by any practical man in the present day. It has been used, with decided advantage, not only in lingering labours arising from imperfect contractions of the uterus, but also in other cases where this viscus is atonic, as in many cases of amennorrhœa, of passive uterine hemorrhage, and of abortion; likewise in certain retentions and in incontinence of urine, connected with defective contractility of the bladder; and more recently in certain forms of paraplegia, and of muscular debility of the lower limbs.

Its *modus operandi* is probably by stimulating the lower portion of the spinal column; its effect on the pelvic viscera and lower extremities being thus, as it were, secondary."

22. *Case of Acute Anasarca and Convulsions after Scarlatina Relieved by a Profuse Bleeding.*—Dr. Marshall Hall relates, in the *Lancet*, the following case, which he states to be one of the most deeply interesting it has ever been his lot to treat.

"A year and a half ago Mr. Duffin took me to Highgate; we met Mr. Snow. The patient was a boy ætat. 12. Sixteen days before he had gone through scarlatina in its very mildest form; he had scarcely been confined to his bed, and had not suffered from the *nimia medici diligentia;* he had appeared quite well.

"On this Sunday morning he was seized with swelling of the face, which came on and increased equally suddenly and rapidly. With this symptom there was the appearance of a sudden and serious collapse, and soon afterwards convulsions followed by coma.

"When I first saw my patient there were convulsions followed by deep coma; wine and brandy on the table indicated sufficiently the previous state of the case. I felt persuaded, in spite of the appearances, that the only hope was afforded by relieving the vascular system within the head, and yet that the measure was not unattended with danger. This view was freely explained to the boy's father, who very sensibly said he confided his son's life to the hands of his medical advisers.

"We placed the patient upright, and Mr. Duffin opened the jugular vein. I kept my finger on the pulse while we allowed *twenty ounces* of blood to flow! The convulsions ceased, and the coma diminished, but did not disappear. We then ventured to open a vein in the arm, and abstracted seven more ounces of blood!

"In less than an hour the little patient knew his parents. We prescribed calomel and purgative medicine; a cold lotion to the head, and fomentations to the feet; afterwards leeches were applied; but the blood-letting was *the* remedy to which the amendment was obviously due. The little boy recovered forthwith, and what is important, without the least symptom of the morbid effects of loss of blood.

"I must remark, 1st, that the acute anasarca and convulsions may, and frequently do, follow the mildest cases of scarlatina, perhaps because, after *such* cases, less precaution is usually taken to clear the bowels; 2d, that in all cases of acute anasarca there is the danger of an affection of the head, arachnitis, coma, or convulsion; and 3d, that in such cases the remedy is blood-letting—*blood-letting until relief and security are obtained.*

"I have thought it right to send this case for publication, in order that I might insist upon the importance and necessity of an energetic use of this powerful remedy in such fearful circumstances."

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23. *Fetid Perspiration in the Arm-pit.*—Dr. Guastamacchia, relates in a recent No. of one of the Italian medical journals, the case of a woman who had a profuse and fetid exhalation from her arm-pits, and who was cured of this disgusting infirmity by the decoction of the artichoke, (*Carduus hortensis.*) The patient took the remedy for eight consecutive days, in the dose of half a bottle daily,* in two doses, with half an hour interval. The secretion of urine became copious, it acquired a fetid odour, and the patient was entirely relieved.—*Révue Médicale*, Jan., 1839, from *Il Filiatre Sebezio*, 1838.

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24. *On the employment of the Compound Mercurial Plaster, for the Prevention of Pitting in Small-pox*, by N. Aug. Nonat.—The reputed power of the compound mercurial plaster, (Emplastrum de Vigo cum mercurio,) in preventing the formation of pitts or cicatrices from the variolous eruption, induced M. Nonat to make trial of it in a number of small-pox cases, and the results were all highly satisfactory. Many experiments have been of late years made in France with this plaster. MM. Serres and Gariel, however, appear to have taken the lead on

* The size of the bottle and the strength of the decoction are not stated in the journal from which we derive this information.

these investigations, and the results of their experience were published in the *Archives Générales*, vol. viii. p. 468, in the year 1835.

The conclusion to which these investigators arrived was this; that in all the cases in which the compound mercurial plaster was applied to the surface of the skin when covered with the variolous eruption, it produced a kind of abortive action in the pustules, by which matter was prevented from forming, and consequently no scar or pit was left. It did not appear that the prevention of the formation of matter in the pustule or its absorption if present, was followed in any one case by disagreeable symptoms; on the contrary, the disease appeared to be rendered milder by the diminution of the number of pustules. M. Gariel goes so far as to say, that, if by the application of the plaster to the whole surface of the body, we could prevent the suppuration of all the pustules, he has no doubt the disease would be reduced to its most simple condition. His experiments, however, only show the advantage of this treatment when applied to the face.

In the first case related by M. Nonat, he applied, as a means of comparison, on one thigh, the common diachylon plaster, on the other, the compound mercurial plaster, which last was also applied to the face. On the eleventh day of the disease both plasters were removed, when it was found that no change had been produced on the pustules by the diachylon plaster, as they had presented precisely the same appearance as those on the parts of the body which had not been interfered with; whilst those under the mercurial plaster were converted into solid tubercles, the skin being of a natural colour, and neither swollen nor painful. From this date, the pustules modified by the mercurial plaster, became the seat of a furfuraceous desquamation, under which they gradually diminished, and left not the slightest trace of a cicatrix. The eruption in this case was confluent.

The next case is equally interesting. The patient was a woman, 36 years of age, and the pustules were confluent on the face, and partly so on the body. On the first day of the pustular eruption, the compound mercurial plaster was applied to the face; on the second day, to the right thigh; on the third day, to the left fore-arm; and on the fifth day, to the right fore-arm; and on the sixth day of the eruption, to the back of the hands.

On the eighth day of the eruption the mercurial plaster was removed from the face, and the parts which it had covered were found to be neither swollen nor painful, the pustules were all converted into minute granules or tubercles, varying in size from the minutest point, which scarcely raised the cuticle, to nearly the size of a hemp-seed. No fluid of any kind existed in the tubercle which had been left; the base alone of each was slightly injected and reddened. On the nose and lips, with which the mercurial plaster had not been in immediate contact, the pustules had gone on to suppuration; the pustules over the rest of the body being only as yet filled with a transparent serous fluid.

On the tenth day, the plasters, which had been applied on the second and third days, were removed, and the pustules were found changed in the same manner as those of the face had been.

The plasters which had been applied on the fifth, sixth and seventh days of the eruption, that is, after it had advanced to the state of vesicles or pustules, seemed to have little or no effect in preventing the suppurating process, only the pustules advanced rather more rapidly than those on the rest of the body.

From this it appears, that if the mercurial plaster be applied on the first, second or third days of the eruption, it will cause their disappearance without suppuration; whilst if applied later in the disease, though it may hasten the process, it does not put a stop to it.

M. Nonat relates many similar cases which it seems unnecessary to specify, all tending to prove the *abortive power*, if it might be so termed, of the compound mercurial plaster. It is to be hoped that practitioners in this country will be induced to give a fair trial to this simple means of preventing those unseemly scars which disfigure the countenances of those who have been afflicted with

small-pox.—*Edinburg Méd. and Surg. Journal*, from *Gaz. Med. de Paris*, July 27, 1839.

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25. *On the Employment of Gold-leaf for the Prevention of Pitting in Small-pox.* Baron LARREY communicated to the Academy an interesting notice of a practice which was prevalent amongst the Egyptians and Arabs, by which they prevented the unseemly scars produced on the exposed parts of the body by the suppurating of the small-pox pustules. The practice consisted in covering the exposed parts of the body, as the face, hands and feet, with gold leaf, as soon as the eruption made its appearance.

M. Legrand bears testimony to the efficacy of the practice, having tried it in one case, which he relates. The patient was a beautiful English girl, who had a copious eruption of confluent small-pox. On the first day of the eruption the whole of the face was covered with the gold leaves, which were made to adhere by means of gum-water. The application was renewed morning and evening so long as the suppurative fever continued; and when the cure was completed, not a pit or scar was left on the face where the gold leaf had been applied. The hands, and the rest of the body which had not been thus protected, were deeply marked with the scars of the pustules.

Baron Larrey says, that he has found nearly the same beneficial results to follow from the repeated anointing of the face of the person labouring under small-pox with almond oil; a practice which recommends itself from its cheapness and the facility of its application.—*Ibid.*, from *Compte Rendu*, July 1 and 8, 1839.

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26. *Creosote in Deafness.*—Mr. CURTIS says that he has employed creosote with advantage in cases of deafness, resulting from a deficiency of secretion of cerumen. It is necessary first to cleanse the meatus auditorius externus. For this purpose, Mr. C. generally employs a preparation consisting of half an ounce of ox-gall mixed with a drachm of tincture of castor or tincture of musk, with which a piece of cotton is moistened, and inserted into the meatus at night; to soften the hardened cerumen, the ear being syringed in the morning with warm water, to which one ounce of soap liniment and a little eau de cologne have been added. Mr. C. says he occasionally substitutes the solution of potash of the Pharmacopœia with oil of almonds, for the preparation of ox-gall and castor, with equal advantage in dissolving the cerumen.

When the meatus is well cleansed, he uses the following: Take of creosote ʒj; oil of almonds ʒiv. Mix. A little to be inserted into the meatus night and morning, with a camel-hair brush.—*Lancet*, Nov. 24, 1838.

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27. *Contribution to the Pathology of the Diseases of the Lungs.—Tubercular Excavation, without cough or expectoration, or any apparent symptoms of illness, presenting in an active, muscular young man, and suddenly proving fatal by rupture of a large blood-vessel.* By D. MACLACHLAN, M. D., Assistant Surgeon 79th Regiment.—Accident frequently discloses extensive organic changes, the previous existence of which were wholly unsuspected: nor does any one organ, however important in the animal economy, appear to be exempt from latent disease. The brain, the heart, and stomach, have each been found altered in structure without the outward, reputed symptoms of derangement of function; and we have an authenticated case on record, of a soldier performing his duties up to the day of his death, with the whole of the right lung converted into one entire abscess. Such remarkable exceptions as these are seldom amenable to art; they advance in secret, and, if in practice, new and unexpected phenomena suddenly rouse our suspicions, and bring them under our cognizance, it is but too often not until they are beyond the control of medicine.

The following case is a good illustration of one of the most frequent lesions of this description—latent tubercular disease of the lung. Arriving at the stage of softening and excavation, without cough or expectoration, and suddenly terminating fatally by hemorrhage, gives it additional interest. We naturally re-

mark, that, had attention been attracted to the chest, had there been previous cough, difficulty of breathing, or any symptom referable to the state of the lungs, an experienced auscultator would no doubt have detected during life what was only discovered by examination after death; and, as rest and quiet would probably have been enjoined, there is reason to suppose life might have been protracted, and the fatal event deferred.

Case.—John Laidlaw, a private in the 79th Regiment, ætat. 22, an active, muscular, well-formed young man, with a capacious and well-proportioned chest, was suddenly seized, apparently without previous ailment, while at light infantry drill in the barrack square, at eleven o'clock on the morning of the 18th January last, with "vomiting" of blood. I saw him five minutes after the attack. Scarlet-coloured blood was then gushing out of the mouth and nostrils. He was in a stooping posture, in the greatest distress, supported by one of his comrades, and the gurgling in the trachea and suffocative breathing gave direct evidence that a large vessel had given way into some part of the respiratory organs. The man was carried to the hospital, a few yards off, and a vein was immediately opened in each arm, while at the same time dry cupping was extensively practised over the chest. The left external jugular vein was also opened. Six or eight ounces of blood were obtained from the orifices, but without the least relief to the breathing or abatement of the profuse hemorrhage from the mouth. He almost immediately became convulsed and insensible, and died in five or six minutes, eleven or twelve hours from the period of seizure.

The body was examined twenty-four hours after death. Percussion elicited a clear sound over the chest. The epigastrium was considerably distended. On removing the sternum and ribs, the lungs presented a perfectly natural aspect. Firm adhesions of both pleuræ existed on both sides. The large vessels with their immediate branches were now carefully searched. This examination being fruitless, and it being observed that pressure on the left lung forced frothy bloody serum out of the mouth, the lung was removed from the body, when a deep puckered indentation presented itself, in the summit of the upper lobe, immediately below and about the centre of the clavicle. This puckering pointed out a collection of small, gray, semitransparent tubercles, altogether forming an induration larger than a pigeon's egg, in the centre of which two caverns, filled with dark coagula, were discovered, communicating freely with each, the one capable of holding a nutmeg, the other about half this size. There were several smaller vomicæ in the mass. The walls of the large excavations had a rough, broken down aspect, as if recently lacerated. There was no lining membrane, and no appearance of purulent matter. The openings of the bronchial tubes in these cavities, four or five in number, were filled with clotted blood, and the ruptured vessel presented a gaping orifice easily admitting a large probe, and situated near the centre of the larger excavation.

The stomach contained upwards of two pints of dark semifluid blood, occasioning the distension perceived in the epigastrium. All the other viscera appeared healthy, and the remainder of both lungs was free from tubercles.

The portion of lung was exhibited a few hours after its removal to some of the members of the Pathological Society of Dublin. Among these I may mention Drs. Graves, Stokes, and Corrigan; and to Mr. Smith, one of the Secretaries, I am indebted for a beautiful preparation of the specimen.

Before concluding the history of the case, it may be well to remark, that the man had been under my care, two months before death, with a non-syphilitic bubo in the groin. He was in good general health, and resumed his duties immediately after he was discharged from the hospital. He had been fourteen months in the regiment, and had never been on the sick list more than a day or two at a time, and then always with the most trivial complaints.

There are several cases on record of tuberculous excavation without cough or expectoration. One has been related by Andral, (Clin. Med. Malad. de Poitr,) which I cannot forbear quoting. A young man, 18 years of age, came under his observation, with well-marked symptoms of chronic peritonitis and enteritis.

On examination after death, the summit of the right lung was found hollowed out into a cavity capable of holding a small apple, the walls of which were lined with concrete purulent matter: this cavity was empty. Beside it there existed three or four smaller cavities, communicating with each other, equally empty. The rest of the parenchyma of the lung contained a great many crude tubercles. The bronchial membrane was pale, accounting, Andral supposes, along with the empty state of the cavities, for the absence of cough and expectoration.

The rarity of fatal hemorrhage from rupture or perforation of a vessel in tuberculous excavation, has been remarked by almost every writer on the subject of tubercular phthisis, and though, on the whole, not uncommon, it is unquestionably, according to Latham, (Clin. Lectures,) one of the least frequent causes of hæmoptysis. Nature in these cases takes the greatest pains to prevent it, and, as observed by Dr. Clark, (Tuber. Phthisis, Cyc. of Pr. Med.,) the rarity of this accident may be estimated by the fact, that the bands which traverse the caverns were found by Louis to contain pervious blood-vessels in only five out of 123 subjects whom he examined. Andral, amid his extensive opportunities, has only once been able to find the orifice of the ruptured vessel from which the blood had escaped in hæmoptysis furnished by tuberculous excavation. This vessel was contained in a band which traversed the cavity, and which band had been torn. But in all the other cases he found it always impossible to trace the existence of the hemorrhage to the rupture of large blood-vessels.

In the case of Laidlaw, the vessel was larger than the temporal artery; it was distended with a firm clot, and was at first taken for one of the bronchial tubes opening upon the cavern, the whole of which were similarly plugged up. The interesting points of this case appear then to be:—

1. The existence of tuberculous excavations, without cough or expectoration, in a muscular subject apparently in the enjoyment of perfect health.
2. Under these circumstances suddenly fatal hemorrhage.
3. The discovery of the ruptured vessel, and its size exceeding that of the temporal artery.—*Edinburgh Medical and Surgical Journal*, July, 1839.

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28. *Case of Croup in a Woman thirty years of age, cured by the Nitrate of Silver.*—The subject of this case was a woman, ætat. 30. The disease commenced on the 30th September, with slight uneasiness of the throat, which became worse the following day. On the 4th October the pain in the throat was considerable, and the left tonsil was slightly swollen, and in one portion presented a small yellowish point. She had no cough or fever, and the sound of the voice was not changed.

On the 6th, the loss of voice was complete; but guttural whistling sounds were heard. The left tonsil presented on its inferior half a false yellowish coloured membrane, which seemed to extend towards the opening of the larynx. This membrane was with difficulty detached with the handle of a spoon, showing the portion from which it was detached to be red and bloody. The pain in the throat was very great, but there was not much fever. M. Bretonneau being consulted, advised the parts to be touched with a concentrated solution of the nitrate of silver. Four drachms of the nitrate of silver were, therefore, dissolved in twelve drachms of distilled water, and the inflamed parts were touched three times a day with it. After each application of the caustic, the patient complained of a sensation of burning heat in the throat; and, after repeated attempts at coughing, brought up some fragments of tough yellowish membranes.

On the 7th, the pulse was somewhat increased in frequency; the same whistling sounds were still emitted from the throat, and she complained of sharp pain chiefly in the left side of it. There was an abundant discharge from the pharynx of thick and coagulated mucous fluid, resembling false membranes, which had formed on the tonsil and anterior pillar of the pharynx. The expectoration was mucous, and mixed with shreds of false membrane. The solution of the nitrate was thrice applied during the day.

On the 8th, the voice was less stifled, and the whistling sounds were some-

what diminished. A considerable quantity of false membrane was brought up by the cough. The caustic solution was twice applied.

On the 9th, the same voice was more natural and scarcely attended with any whistling sounds, and the back part of the throat and epiglottis was in part deprived of its covering of false membrane. Considerable quantities, however, of false membrane were coughed up during the night. The caustic solution was omitted this day.

On the 10th, it was found that many portions of false membrane had been coughed up since the day before—many of them blackened with the nitrate of silver. The caustic was applied this day, and again, for the last time, on the 11th, from which period convalescence rapidly advanced.

The following is M. Bretonneau's method of applying the caustic. A fine piece of sponge, of a pyriform shape and about the size of the thumb, is cleft crucially at its smaller extremity, in order that it be attached to the bent extremity of a piece of whalebone, which is to serve the purpose of a handle to it. The patient is seated on a chair with his face to the light, and the head is held back and supported by an assistant. The sponge is then dipped in the caustic solution, and the fluid is afterwards expressed so as merely to leave the sponge moistened with it. The tongue is then held down by means of a spoon or spatula in the left hand, and the sponge freely applied over all the inflamed parts of the pharynx. To apply the caustic solution to the larynx, the sponge is carried beyond the glottis, and by means of a sudden pressure on the base of the tongue a few drops are expelled from the sponge, which find their way down into the larynx. This is repeated again and again, varying the point on which the pressure is made, so as to insure the caustic solution reaching all the affected parts. The caustic is applied three times a day till the inflammatory action begins to abate, when it is less frequently repeated, and the solution employed ought to be weaker.—*Gazette Médicale de Paris*, June 29, 1839.

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29. *Treatment of Stomatitis, or Gangrenous Inflammation of the Mouth.*—This disease usually commences in the gums about the roots of the teeth, and M. Taupin recommends that we should endeavour to confine it there, by means of detersive and gently caustic applications—and of these, the dry chloruret of lime is the best—if we are called in to the case sufficiently early. It is useful to interpose some substance, such as a thin plate of ivory, cork, or metal, between the affected gums and the opposed cheek, in order to preserve as much as possible the latter from the contact of the septic discharge—and the patient should be made to spit out the contents of the mouth very frequently. If he is too young to use a gargle, we must have recourse to the employment of injections, by means of a syringe or bag and pipe—these should be used every hour. The lips, and more particularly their commissures, should, at the same time, be smeared with some unctuous substance to protect them from excoriation.

If the disease has already extended to the cheeks, tongue and palate, we cannot do better than at once apply the dry chloruret of lime to the diseased surfaces; this application should be repeated every two hours.

The mode of using it is as follows:—

With the moistened fore-finger take up some well pulverised chloruret, and rub all the affected parts freely with it; then let the patient wash out the mouth by gargling, or, if he is too young, we must effect this by squirting in some fluid. In the course of two hours or so, the operation should be repeated, and the patient should be encouraged to allow the dry chloruret to remain on the parts as long as he possibly can. As this salt is very disagreeable, we cannot expect this in young children. These frictions sometimes occasion slight hemorrhage; but this is rather useful than otherwise, as it tends to diminish the engorgement around the diseased parts.

The chloruret acts as a gentle caustic, and as an antiseptic or disinfecting remedy, causing a new irritation, which supplants and removes the diseased action.

By following out this course of treatment, M. Taupin has repeatedly seen

gangrenous stomatitis, which had lasted for several months, and had resisted every other mode of management, cured in from five to ten days.

In private practice it very rarely fails; and in public or hospital practice it would certainly be as successful, if it was pursued with due attention and care.

M. Taupin has never seen any accident result from its employment. If any of the chloruret should be swallowed, it almost immediately induces vomiting, and is thus rejected. The only disadvantage attending its use is that the teeth are blackened, and frequently remain so for several weeks.

If the stomatitis be accompanied with much swelling of the cheek and lips, it will be found useful to apply two or three leeches at the angle of the jaw most affected, and smear some mercurial ointment around the part.

Whenever there appears to be no removal of the eschars, the healing of the ulcers on the gums and cheeks will be much promoted by touching their surfaces occasionally with nitrate of silver.

As long as the disease retains its buffy (*counneuse*) or ulcerated form, the local means now mentioned, will, in almost every case, be found adequate for the cure; but when it becomes carbuncular and gangrenous (*charbonneuse*) it will be necessary to resort to the application of more powerful caustics. The pure muriatic acid is one of the best.

It is to be remembered that in some bad cases, where the gangrenous parts are of considerable thickness, the mere application of the acid to the mortified surface is not sufficient; we must previously detach as much of the eschars as possible, by means of scissors and forceps, and then apply the acid to the subjacent surfaces. In this way only shall we succeed in arresting the gangrenous action. It is always necessary to guard the tongue, teeth and lips from the contact of the acid; and, with due care, this may always be done.

If the gangrenous stomatitis has commenced in the central part of the cheek, we should in the first instance use leeches, the mercurial unction, and scarification of the mucous texture; and, whenever the eschar appears, the muriatic acid should be at once applied. When the eschars begin to fall off, injections of camphorated cinchona or of solution of chloride of lime should be applied frequently, or the dry chloride may be used as already explained. In the worst cases, the subjacent bone becomes carious and necrosed; but the same mode of treatment is still to be continued.

We have not yet spoken of the internal treatment that is to be used at the same time. The bowels should be kept gently open, but not much purged; and bark, wine, beef-tea, &c., should be administered freely. In some unfavourable cases, the disease of the mouth is complicated with symptoms of pneumonia or enteritis. Such cases are almost always fatal; bleeding is out of the question, and all that can be safely done, is to administer opium and antimony in repeated doses.

Before closing these remarks, we shall very briefly allude to a few local applications, which, though not so decidedly and uniformly efficacious as the chloride of lime, succeed in a good many cases. Alum is sometimes, but rarely, used in any of the hospitals of Paris. The muriatic acid, mixed with honey, is often of marked utility; so also is the pulp of the lemon, which will frequently succeed very well, when the disease is limited to the gums.—*Med. Chirurg. Rev.* from *Jour. des Connaiss. Med. Chir.*

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30. *On Chlorosis accompanied by Menorrhagia.* By M. Trousseau.—The coincidence of diminished or suppressed menses with chlorosis is so common, that the fact is frequently overlooked that a chlorotic state may exist in conjunction with menorrhagia; in both we have extreme paleness, discoloration of the blood, a tendency to dilatation of the heart, *bruit de soufflet* in the principal arteries, and neuralgia in different regions; when the menstrual flow is deficient, these symptoms are said to arise from chlorosis, when it is superabundant, from anemia. We frequently find that chlorosis may be traced in the first instance to a copious nose-bleeding or to any other unusual loss of blood, arising accidentally or produced therapeutically; so that a transitory anemia will give rise to perma-

nent discolouration and increased liquidity of the blood. This altered state of the circulating fluid is itself sufficient to give rise to hemorrhage, which, thus occurring alternately as cause and effect, does not allow the patient to escape from its evil consequences. This form of chlorosis is, however, much less frequent than that which is attended by amenorrhœa; it forms only one-fourth of the cases recurring in adults, and perhaps one-twelfth in those of young girls. In twelve cases collected by M. Trousseau, there was no serious lesion of the uterus. It would appear at first view that the treatment adopted for amenorrhœal chlorosis would not be suitable for the menorrhagic form; thus, iron, which is given with so much success to restore the menstrual secretion, would hardly appear appropriate when that secretion is in excess: but is not the effect of iron on chlorotic patients rather tonic than emmenagogue? We generally find the health partially re-established before the menses return; the complexion regains its natural tint, the depraved appetite, the pain at stomach, the palpitation of the heart cease, and the *bruit de soufflet* in the arteries is lost, so that the patient frequently recovers the appearance of health before the menses reappear. Presently this secretion is re-established, in consequence of the general return of the system to a healthy state. Iron then is only emmenagogue because it is tonic or reconstituent. Re-established health is not owing to the returning menses, but the contrary. On this view we shall have no difficulty in conceiving that preparations of iron will be of the greatest utility in menorrhagic chlorosis, in which it will operate both as tonic and hemostatic. Giving freely, the preparations of iron between two menstrual periods, we shall find the blood rapidly regain its lost constituents of colouring matter and fibrine, and the secretion will be much less abundant but more coloured. If more powerful anti-hemorrhagic means are required, the ergot of rye will be very useful. Uterine hemorrhages are generally more violent in the night than during the day, and they occur with the greatest violence about four or five o'clock A. M. Without pretending to account for this singularity, we shall find it highly useful to give a dose of *recently-powdered* ergot (gr. xv. to ℈j.) in the evening, and again about four in the morning. In many cases, the more simple and agreeable administration of acids will be sufficient; of these, the best is the citric, given in its natural form of lemon-juice. If these means are necessary, the chalybeate must be suspended during the menstruation, and afterwards continued whilst any symptoms of chlorosis remain.—*B.* and *F. Med. Rev.* from *Journ. des Connaissances Med. Chirurg.* Dec. 1838.

SURGERY.

31. *On Resection of the Lower Jaw.* By M. Wœnker.—Resection of the lower jaw is made either in the continuity or contiguity of the bone, and ordinarily the half of the maxilla is removed. From 1810 to 1830, it was performed sixty-one times in its continuity, and, from 1793 to 1831, eighteen times in its contiguity. In the sixty-one operations in its continuity, forty-one have proved successful, eleven have terminated fatally, and in the remaining nine the result is not stated. In the eighteen operations in its contiguity, eleven were cured and five died. The deaths of two of these is attributable to the ligature of the carotid artery, that of a third which occurred on the thirtieth day to epilepsy, and a fourth died on the thirteenth day of pleura-pneumonia.

Since the year 1831, eighteen operations on the lower jaw have been performed, of which it will be seen that two only terminated unsuccessfully.

1. In 1831, Schindler, of Grieffenberg, removed from a woman, ætat. 29, the half of the lower jaw for an osteo-sarcoma, which had commenced in one of the alveolar processes. The carotid artery was not tied. The cure was perfect at the end of six weeks.—*Graefe and Walther's Journal*, 1832.

2. Bierkowsky, of Varsovia, performed the same operation for caries of the jaw. The cure was perfect on the forty-ninth day.—*Ibid.*

3. Brett operated with success on a patient, ætat. 27, labouring under an affection of the alveoli.—*Med. and Phys. Trans. of Calcutta*, 1831, vol. 5.

4. Hetting removed the half of the lower and a portion of the upper jaw in a scrofulous woman, ætat. 23, affected with medullary cancer of the bones, soft palate and a portion of the cheek. Despite the large extent of the wound, the cure was complete at the end of seven weeks.—*Prov. Med. and Phys. Trans.* 1833, vol. 1.

5. Martin, surgeon of the Hotel Dieu of Marseilles, performed a resection of the lower jaw.—*Gaz. Méd. de Paris*, 1833, p. 688.

6. Goyrand, surgeon of the Hotel Dieu of Aix, removed a portion of the lower jaw for cancer which had affected primitively the soft parts.—*Ibid.*

7. Gerdy removed, in 1833, a portion of the jaw in a man, ætat. 60, affected with cancer, which had commenced in the lip. The patient died of erysipelas. —*Archives Gén.* Septembre, 1835.

8. Gerdy performed the same operation, in 1834, on another patient, ætat. 60, and greatly debilitated, for a cancerous tumour of the alveolar edge of the volume of a walnut. He died on the ninth day of exhaustion.—*Ibid.*

9. Fricke removed from a man, ætat. 60, the tongue and two-thirds of the lower jaw for cancer affecting these parts. Thirty-seven points of suture were made use of to bring the parts together after the operation. A perfect cure followed.—*Zeitschrift für die gesammte Medicin*, 1833.

10. Regnoli, of Pisa, removed by this operation from a sailor, ætat. 48, a fungous tumour of the periosteum, which equalled in size the head of an infant. Perfect success.

11. In 1833, Chelius operated on a woman, ætat. 32, for an osteo-sarcoma, which, sixteen years previously, had necessitated the removal of a portion of the bone.—*Medicinische Annalen von Heidelburg*, 1836.

12. Frank de Casan removed with success a portion of the jaw from a Tartar, ætat. 14.—*Graefe and Walther's Journal*, 1836.

13. Beck disarticulated the lower jaw of a patient affected with caries and necrosis of this bone and extensive ulcerations of the soft parts.—*Communicated by Beck.*

14. Beck in another case removed with success a part of the jaw and coronoid process.—*Ibid.*

15. Beck in a third instance successfully removed the angle of the jaw.—*Ibid.*

16. Chelius has performed the resection of a half of the jaw from an osteo-sarcoma.

17. Pelikan, of Wilna, has successfully performed the partial resection of the lower jaw.—*Graefe and Walther's Journal*, 1836.

18. Jagielski has removed the right half of the bone in a woman, ætat. 44, affected with an osteo-sarcoma of the volume of the two fists.

19. Lastly, the following case observed in the service of Prof. Schwœrer will make known a ninety-ninth case of partial resection of the lower jaw.

Case.—Winkler, ætat. 27, entered the hospital May 24th, 1836, on account of a large cancerous tumour extending from the canine tooth of the right side of the lower jaw to the coronoid apophysis. His general health was bad, he was greatly emaciated and labouring under constant fever. Despite these unfavourable circumstances, it was judged proper to attempt an operation which alone offered any prospect of relief. The patient being seated, the soft parts were divided from the temporo-maxillary articulation to the angle of the jaw, and then by a second incision running along the inferior edge of the maxilla from this point to the chin; a third incision half an inch within the commissure of the lips was directed perpendicular upon the second. The rectangular flap thus formed was dissected off from the bone, and the inferior flap was likewise separated from the jaw, as well as the lower lip to the symphysis. The bone was then sawn through, and the fragment carefully drawn forwards and outwards, in order to separate it from all the internal soft parts as high as the articulation. Arrived at this point, it was drawn still more upwards and outwards in order to

avoid wounding the temporal and external carotid arteries, and the operation was terminated by dividing the articulation with a blunt pointed bistoury. Several arteries were divided, some of which were greatly enlarged, but, by securing each of the vessels as divided, the previous ligature of the carotid, which some authors think necessary, was avoided. The patient being placed in bed, the wound was covered with compresses soaked in ice water. At the end of six hours, the flaps were united by means of ten or twelve points of the interrupted suture. By the tenth day, the wound had united with the exception of a point at which the ligatures passed out. The cure was perfect by the fifth week, and the patient left the hospital in a satisfactory state. The face was scarcely altered, the cheek presenting a linear cicatrix and being but in a slight degree more flabby than that of the opposite side. Mastication and deglutition were easily performed.

This observation, adds M. Wœnker, as the ninety-eighth previously referred to, shows that partial resection of the lower jaw is not in itself an operation extremely serious, and to which a resort is only allowable when death is imminent. It furnishes also some useful data relative to the operative procedure.

Some surgeons recommend that, in resection of the jaw, the patient should be placed in the horizontal position: we think, on the contrary, that an upright position is preferable, as it leaves the operator more master of his motions, and prevents suffocation, cough or the efforts at vomiting, which is caused by the entrance of blood into the trachea or pharynx.

Sometimes after the section of the muscles of the tongue, this organ is drawn back forcibly, and produces suffocation. In cases of this kind Lallemand was obliged to perform laryngotomy, and Delpech to draw the tongue forwards with a hook. This accident may always be avoided by flexing the head forwards, since, as Chelius remarks, the retraction of the tongue is determined by the tension of the sterno-cleido-mastoid muscle. In the second point of view, it is then also preferable to place the patient in a sitting position.

Gerdy, Syme, and some others, think it best, in order to prevent injury to the soft parts, avoid pain, and shorten the duration of the operation, to divide the bone with the cutting pliers; we, however, think with Dupuytren, that the saw when properly handled is always preferable.—*Archives Gén.* for July, 1839, from the *Med. Annal. von Heidelberg*, for 1838.

[The translator of this paper in the Archives Générales in a note says, "The assertion of the author that but eighteen cases of this operation have been performed since 1831, is much too absolute. Several operations are no doubt unknown to him. We ourselves have seen two partial resections of the jaw successfully made by M. Jobert, which are not indicated in his enumeration." We may add that, in addition to the cases here referred to, several others which are not noticed, and which have been performed since 1831 on the continent of Europe, as well as in Great Britain and this country, might be easily added to it. The resumé of M. Wœnker, however, perhaps includes a sufficient number of cases of resection of the lower jaw to allow of a practical appreciation of the immediate dangers of the operation, and, in that view, will prove interesting to the surgeon.]

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32. *On the Treatment of Fractures by the Immovable Apparatus.*—Our readers are already aware that in some parts of Europe, more particularly in France and Belgium, the treatment of fractures by the immovable apparatus has, of late, been revived and extensively introduced into practice. The simplicity of the apparatus, the saving of labour to the surgeon, and its unqualified approbation and adoption by so justly high an authority as that of M. Velpeau, added perhaps to the charm of novelty, have all led to its extensive trial.

The manifold objections to, and dangers of the apparatus were overlooked, and we are but now, after a considerable lapse of time, beginning to hear of the ill success following this mode of treatment. If fractures can be any where well treated by the immovable apparatus, assuredly we should look for them in the hospitals of Paris, where the patients are daily visited by the surgeons who

apply it, and yet we have high authority (M. Malgaigne) for stating, that "the cases of want of success are not rare, and that there is not a single service in Paris in which they cannot be seen."*

The following instances, treated by the immovable apparatus, which we have condensed from the late French journals, are well calculated to show the defects and dangers of this mode of practice when applied to recent fractures. It is true that no method of treatment is at all times successful, much depending upon the care and the skill with which the apparatus employed may be applied, as well as upon the subsequent attention given to the case, but nevertheless we regard that by the immovable apparatus as much more likely to occasion unpleasant results than any other of the methods ordinarily employed in the treatment of this class of injuries.

Case 1. A lady, ætat. 50, of good constitution, received a fracture of the lower extremity of the radius by a fall upon the palm of the hand on the 12th of February. An immovable starched apparatus, with two splints extending beyond the ends of the fingers, was applied, each finger being enveloped with a small roller. Acute pain and fever followed, and on the 8th day delirium. On the 14th of March Dr. Thierry was called to see her; and, perceiving a gangrenous odour from the hand, had MM. Ribes and Berard called in consultation, in whose presence the apparatus was removed. The whole hand was found swollen, and the four fingers were completely gangrenous. The fingers were amputated at the metacarpal articulations, and the flaps brought together with adhesive plaster. On the 24th of March, eighteen days after the operation, the stump was completely healed. The usual apparatus for fractures of the fore-arm was now applied for fifteen days moderately tight, with the view of staightening in some degree the inferior extremity of the radius which projected considerably inwards.—*L'Expérience for* 1838.

Case 2. M. G., ætat. 40, received a compound comminuted fracture of both bones of the leg at their middle part, on the 4th of January, by the wheel of a wagon passing over the limb. He was immediately carried to a maison de santé, where the fracture was reduced, and the ordinary apparatus for fractures of the leg applied. Abscesses followed about the seat of injury and were opened. By the 20th of March the wounds were in a good state, and cicatrising, a small portion of bone having exfoliated, and the union was beginning to be solid. At this time the immovable starched bandage was applied, an opening being left in the apparatus opposite the suppurating point, after which the patient was carefully conveyed once or twice to the garden.

On the 31st of March he left the maison de santé, and, after causing the apparatus to be removed, attempted to walk with crutches; the callus not being sufficiently firm to sustain him, he fell and again fractured the part, the tibia projecting through the wound. M. Thierry was immediately called, and found the leg in a deplorable state. Independently of the protrusion of the bone, large collections of matter existed at the upper part of the leg as well as upon its outer side. The fracture was reduced and dressed with the ordinary apparatus, and the abscesses opened. After a long treatment the patient was cured.—*Ibid.*

Case 3. C———, ætat. 13, had his leg fractured by the wheel of a carriage passing over it. A bandage of strips and three padded splints were made use of. At the end of nine days, the swelling having been dissipated and the leg being straight, an immovable starched apparatus was applied. This remained in place forty days; and, when removed, the bones were found to be united, though with a displacement of the superior fragment of the tibia in front.—*Ibid.*

Case 4. Blanchetien, ætat. 34, entered La Charité, on the 1st of August, for a fracture of the fore-arm in its middle part, produced by a fall from a height of six or eight feet. Up to the sixth day the treatment consisted in bathing the part and the application of cataplasms. At this time the dextrine apparatus was applied.

About the tenth day M. Gerdy, finding the apparatus too loose, filled the inter-

* Gazette des Hôpitaux, No. 110, 1839.

stices with cotton. The ill success of another case in the wards at the same time, in which a similar apparatus had been employed, induced M. Malgaigne on the 1st of September to examine the arm, when it was found that consolidation had taken place, the ulna projecting backwards. The radius also was thrown backwards, and the limb so deformed that the movements of pronation and supination were performed but imperfectly.—*Gazette des Hôpitaux*, *No.* 110, 1839.

Case 5. At No. 6 Salle St. Jean, (La Charité,) is a man of good constitution, who six months since received a simple fracture of the tibia by a fall. The day after the accident an immovable apparatus was applied, which was allowed to remain on for seven weeks. During all this time the patient appeared to be doing well. When the apparatus was removed, acute pain was felt at the point of fracture; he was unable to walk without crutches; and, after two trials, a displacement of the fragments occurred, consolidation not being perfect. A second application of the apparatus was then made, which it became necessary soon to remove in consequence of the violent pain produced. At his entrance into La Charité, on the 26th of October, a dextrine bandage was applied and allowed to remain for nearly two months. When removed the leg appeared greatly reduced in size, and a considerable deformity existed in the front of the limb. No trace of the provisional callus could be felt, though no motion could be perceived at the seat of fracture.

According to M. Malgaigne, the want of success in the treatment of the above case was owing to the strong compression made by the immovable apparatus. This, being immediately applied, hindered the effusion of the coagulable lymph which goes to form the provisional callus, and the consolidation only had place at a late period, when the definitive callus was thrown out. One of the great objections, adds M. Malgaigne, to the immovable apparatus, is the obstacle which it offers to the formation of the provisional callus, and it is this obstacle which explains *the want of consolidation observed so frequently in this mode of treatment.*—*Gazette des Hôpitaux*, *No.* 7, 1839.

Case 6. A vine-dresser, ætat. 40, of a good constitution, fell and received a simple transverse fracture of the patella, on the 15th of January. The medical officer called upon to attend him applied first a bandage for the purpose of drawing together the fragments, and afterwards a starched bandage, extending from the toes to the upper part of the thigh; the limb was then put upon an inclined plane. The patient was visited a few times, but, as he scarcely suffered, the apparatus was in no way disturbed. On the 1st of March the attendant returned to remove the bandage, when the odour arising from the limb led him to believe that gangrene had taken place, and Dr. Defer was sent for. Dr. Defer found the limb in the following state: The toes which were not covered by the bandage were completely insensible and mummified. The bandage being removed the gangrene was perceived to extend to within seven inches of the knee and was arrested in its progress. The foot was cold and totally insensible; the epidermis was raised up and was beginning to be separated from the skin. The articulation of the ankle was exposed and the ligaments destroyed. The bones of the leg were also exposed in their lower third, and the tendons were in a sloughy state. Amputation was performed and the patient recovered.—*Gazette Médicale*, *No.* 28.

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33. *Comminuted Fracture of the Frontal Bone followed by Abscess of the Anterior Lobe of the Brain. Cure.*—Peter Michelet, ætat. 32, received a blow upon the forehead from a heavy stone thrown at him on the 1st of November, 1835. The severity of the blow was such as to knock him down and stun him. After a short time he recovered his senses, and was conducted to his home on foot. The wound bled freely. On the following morning he rose as usual and went on foot a distance of three leagues to market. During his journey he was seized with giddiness and headache which obliged him to stop. Notwithstanding this he continued to rise on the following days and go out as usual, though he had lost his appetite and suffered from heaviness of the head, vertigo, drowsiness and constipation. Despite these symptoms, Michelet remained till the fourteenth

day after the accident without consulting a physician. At this date Dr. De Rivière was called and found the wound almost cicatrised, situated at two inches above the root of the nose on the right of the median line. The scalp in the neighbourhood of the fracture was not adherent to the bone, and on making an incision over the part and introducing a finger an irregular depression of bone was perceived—a blunt probe could be passed into the cavity of the cranium to the depth of two inches. The patient at this time was labouring under slight stupor, drowsiness and constipation, and had involuntary emission of urine, and a strong, slow pulse. Sensibility was perfect. The wound was dressed with a poultice, and a purge and laxative drinks were administered.

On the 16th and 17th the wound was suppurating; the signs of compression of the brain were more marked. Pulse harder and very slow. Venesection; purge repeated; same dressing. From the 17th to the 21st he continued gradually growing worse. At the last date a crucial incision was made over the seat of injury in order to apply a trephine with a view of evacuating the abscess which it was believed had formed in the substance of the brain. Upon exposing the bone, it was found that the depressed fragments could be removed without the aid of the instrument, which was done. Immediately upon its removal a large jet of thick pus, of a greenish colour and very fetid, was thrown out; about two wineglassfuls of this were discharged, the latter part of it being mixed with a dark-coloured matter, apparently the remains of the cerebral substance which had been destroyed. After the evacuation of the pus all the symptoms of compression began to diminish; the patient spoke and aided the assistants to change his linen. The wound was covered with cerate, and lightly supported by means of charpie and a bandage. Absolute diet. The reaction following the operation was moderate, the discharge gradually diminished, and two months after the operation cicatrization of the wound was complete. At the date of publication of the observation (1839) the patient was following his usual occupations, and was in the enjoyment of perfect bodily health, with his mind in no degree impaired.—*Journ. des Connaissances Med. Chirurg. April*, 1839.

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34. *Influence of Position in effecting Reduction of Hernia.*—M. Benoit, in an article in the *Bulletin Medical du Midi*, quotes two cases illustrative of the utility of a recumbent position, with the feet elevated and the head depressed, in effecting a reduction of strangulated hernia. The first of these occurred in the practice of a provincial surgeon. The patient had been suffering from strangulated hernia, which resisted various means employed for its reduction, and it was resolved to divide the stricture. Whilst the surgeon was arranging in an adjoining room the instruments for the operation, a cry of joy from the patient soon brought the surgeon to his side. It appeared that in hopes of alleviating his sufferings, the patient, as he lay on his bed, had elevated and supported his feet against the wall, thus forming an inclined plane of his body, of which his feet were the highest and his head the lowest points. He had not been in this position many minutes when he perceived a rumbling in his abdomen, and the hernia was suddenly reduced.

The second case was one of strangulated inguinal hernia of the left side. M. B. tried the taxis, refrigerants, enemata, &c. without success. The symptoms being urgent, another surgeon was sent for. Whilst awaiting his arrival, M. B. recollected the case just quoted, and placed the patient across his bed, raised his feet against the wall with his head depressed, and in a short time the reduction took place.

Our able correspondent, Dr. S. Jackson, formerly of Northumberland, twelve or thirteen years ago, resorted to the same position as a means of reducing strangulated hernia in one case, and with equally happy results. (See p. 302 of this number.)

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35. *Extirpation of the greater portion of the left Clavicle.*—This operation has been performed by Professor G. Regnoli, of Pisa. The middle and sternal extremity of the clavicle were carious, and were removed, leaving only the

accromial extremity. The patient, ætat. 34, entirely recovered.—*Gaz. Méd. de Paris*, Sept. 14, 1839, from *Annali Medico-Chirurgici*, June, 1839.

36. *Lithotripsy in Italy.*—Several Italian surgeons have devoted themselves with success to Lithotripsy. Dr. PAGELLO, of Venice, has performed this operation with success on a child six years of age; a Turin professor has performed it on two children between three and four years of age; and Dr. CAPELETTI, of Trieste, on one of three years and nine months of age. The calculus in this last case was eleven lines in diameter.—*Rév. Méd.* Jan. 1839, from *Annali Univ. di-Med.* 1839.

37. *Statistical Account of the Cases of Stone Operated on in* 1838, by Dr. RIENZI. The number operated on was 36, 33 males and 2 females.

Of these, 19 were between 3 and 15 years, 14 between 16 and 50, and 3 were aged. The lateral operation was not had recourse to in all these cases; with a child the method of Celsus was employed; in the case of a female the calculus was extracted by enlarging with a bistoury a fistulous opening which communicated with the vagina.

Of the 36 operated on, 8 died. Autopsies were made in 5 of these cases. In 2 of them, ulcerations in the bladder existed with effusion of pus and urine into the pelvis. With a third, the left kidney was in a state of suppuration. A fourth had numerous abscesses in the lymphatic glands of the lumbar region of the pelvis. The left ureter was of the size of the small intestine and its parietes thickened and indurated. The fifth was labouring under a second attack of stone, having been previously operated on in 1819. Upon opening the bladder, a large quantity of pus mixed with calculous matter escaped. Death followed in thirty-six hours. The descending branch of the pubis of the right side was carious, and there was a collection of pus behind the symphysis. A scirrhous tumour, of the size of an egg, encrusted with phosphate of lime, existed in the *basfond* of the bladder. On the right side of the neck of the bladder, another tumour existed of the same nature, but in a state of ulceration.

Of the 8 who died, there were 6 adults, 1 child, and 1 advanced in life.

To the number above given, 5 others are to be added operated on by the lateral incision, of which 1 died, and 2 patients operated on at the hospital of Loretto, both of whom were cured.

General Resumé from 1821 *to* 1838.

	Males.	Females.	Cured.	Died.	Children.	Adults.	Old persons.
From 1821 to 1837,	538	15	471	82	282	215	56
In 1838, - -	41	2	34	9	24	16	3
Totals,	579	17	505	91	306	231	59
	596						

Gazette Médicale, No. 37, 1839, from *Il Filiatre Sebesio.*

38. *Statistics of Operations of Lithotomy, performed by Dr.* CAMPANELLA.

	Age.	Result.		
1.	6 years.	Discharged cured on the		14th day.
2.	3 "	do.	do.	13th do.
3.	6 "	do.	do.	16th do.
4.	3 "	do.	do.	15th do.
5.	5 "	do.	do.	40th do.
6.	12 "			
7.	3 "	do.	do.	15th do.
8.	6 "	do.	do.	30th do.
9.	6 "	do.	do.	15th do.
10.	6 "	do.	do.	10th do.

Dr. C. performed the lateral operation by the method of Cheselden.—*Gaz. Méd. de Paris*, 14th Sept., 1839, from *Repert. delle Sc. Fisico-Mediche del Piemonte.*

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39. *Statistics of Operations of Lithotrity.* By Dr. Campanella.

	Age.	Result.
1.	18 years.	Discharged cured the 15th day.
2.	30 "	do. do. 40th do.
3.		Died six months after the operation without exhibiting the least alteration in the urinary passages.
4.	44 "	Cured in three operations.
5.	77 "	do. do. do.
6.	57 "	do. 20 do.
7.	64 "	do. 12 do.
8.	75 "	Many operations; two relapses. Cured.
9.	76 "	Cured in one operation.
10.	49 "	do in three do. Discharged in twenty-eight days.
11.	43 "	Discharged in three months entirely cured.

Dr. C. operated at first with the three branched forceps. In cases 5 and 6, he operated by percussion, with Charriere's instrument. In the other cases crushing with this last instrument sufficed. In case 8 there was a stricture of the urethra of forty years duration, which had caused three urinary abscesses in perineum. The bladder was columnar. The first stone seized was two inches long.—*Ibid.*

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40. *Moxas of Wafers.*—Professor Graefe employs moxas made of wafers, dipped in a mixture of three parts oil of turpentine, and one part sulphuric ether. It is necessary, before applying this inflammable matter to the skin, to carefully remove the superfluous liquid. These moxas are said to easily ignite, to burn promptly and uniformly, and not to crepitate.—*Lancette Française*, Jan. 29, 1839.

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41. *On the Treatment of Inguinal Hernia by Trusses.* By M. Malgaigne. The presence of a direct or oblique inguinal hernia shows a manifest predisposition to the development of a second; so that after an uncertain time, every one who has one hernia should reckon upon having another.

Every bandage hitherto devised for maintaining in place either a congenital or accidental oblique inguinal hernia is formed on a vicious principle, and requires a complete alteration. They all compress chiefly the external ring and act scarcely at all upon any part of the canal; the new principle which I wish to establish and which I have already applied, both in public and private practice, in a number of cases, consists in making pressure on the whole canal; but chiefly on the internal ring. The chief inconveniences of the old method are, 1, that, in closing simply the external ring, it allows the hernia to remain in the canal, and thus does no more than transform a complete into an interstitial hernia; 2, it only by chance produces a radical cure, and, even in children, the proportion of unsuccessful cases is enormous; 3, the hernia is evidently much less effectually detained, as is instantly confessed by the majority of those patients who have tried both methods; 4, when the hernia requires very forcible compression, all the bandages at present employed, by pressing on the pubes, compress the spermatic cord, and hence arises a frightful number of engorgements of the cord and of the testicle, an effect which is not produced by the new method. This method was applied and described by Sir A. Cooper, but is not known or is neglected in England, and is not mentioned in the writings of Samuel Cooper or Lawrence. This singular fact may possibly be somewhat explicable by the following consideration. Ruptures present themselves in practice under two general forms; either simple or reducible with facility, or complicated with serious accidents relating to their strangulation. The latter case, which is

somewhat rare, requires prompt decision, and a dexterous and practised hand; it belongs to the domain of surgery, properly so called, and all the great and magnificent works of the modern schools have been chiefly engaged in the consideration of strangulated hernia. Surgeons have disdained the simple and reducible hernia; they have only superficially studied them, and they have abandoned their treatment to the hands of rupture-bandagers. So that these lesions, so numerous and so important, present in our days the strange anomaly, that surgeons study the disease, but do not occupy themselves about its treatment, and that bandagers are charged with the treatment of the disease without being acquainted with it. I was first struck with this state of things, when first appointed to the care of cases of hernia at the "bureau central" of the Parisian hospitals. The average number of those annually applying for trusses and pessaries is 3000; and in the two months of October and November 1835, I was able to collect 435 written observations, and to obtain results worthy of communication to two academies. Since that time I have silently continued my work, wishing to arrive at results as complete as possible. During the last three years, my employment at the "bureau central" and in the hospitals, my connection with the chief bandagers of Paris, and my private practice, have enabled me to see more than 2000 cases of hernia, to try almost every known bandage, and to determine the conditions under which bandages should be employed, and to place on exact foundations the science of prognosis and of indications. In this place, I merely wish to speak of the treatment of oblique inguinal hernia, the most common of all, and consequently the most important to the practitioner. The oblique inguinal hernia does not always present the same degree of development, and I have assigned to it the following degrees or periods: 1. When the hernia projects only through the abdominal ring; this I call *commencing hernia*. 2. When it occupies the inguinal canal; M. Goyrand has applied to this the name of *interstitial hernia*, a useful name to continue. 3. When it projects beyond the external ring; this is *bubonocele*. 4. When it descends into the scrotum; *oscheocele*. The latter two degrees are well known; the only practical difference which they present relates to the strangulation, which is more dangerous in bubonocele than in oscheocele, but in common cases they offer the same indications, and I shall not stop any further to notice them.

Interstitial hernia is often not recognized, unless it is very large, which is rarely the case; since, upon applying the finger upon the external ring, no projection is felt; the complaints of the patient are ascribed to an imaginary feebleness of the abdominal parietes, or to some other cause. This degree of hernia is very common, and, as strangulation may happen in this case, it is necessary to fix to it serious attention. Lastly, *the commencing hernia*, the first degree of the disease, has been entirely neglected, both by bandagers and surgeons. The reasons of this are easily given. The patient never consults a surgeon at this period of this disease; and I confess that I have not yet had occasion to decide in a case of this kind. It is only in secondary hernia that I have learned to recognize it, after having appreciated all the importance of such a diagnosis; and as this importance results from a fact unknown before my time, it is not to be wondered at, that surgeons, occupied by a large hernia of one side, should be but little careful about an almost imperceptible swelling of the opposite side. But this swelling, however small it may be or may appear to be, is the certain sign of the near approach of a second hernia, and one may vainly check in the most perfect manner the primitive hernia, the second will not the less certainly appear as soon as this slight projection has been perceived. I will return to the subject of these secondary herniæ; I now wish only to establish the course which inguinal hernia generally follows in its development, as far as the fact bears upon treatment.

Hernia most frequently passes successively through these four degrees. Thus, an individual exerts himself and feels a crack in the inguinal region; he sees nothing at first, and it is only after eight or fifteen days that he sees a small tumour projecting beyond the ring, and afterwards the bubonocele becomes oscheocele. From this account, which is applicable to the majority of patients,

one may conclude that the first effort has opened the internal ring, and that the hernia has subsequently passed to the extreme degree. Frequently, in these accidental herniæ, the intestines descend at once into the canal; I have seen some of them suddenly pass to the third degree; and sometimes the hernia becomes strangulated at the moment of its production. But I have never known an accidental hernia suddenly arrive in the scrotum. Each of the first three degrees may remain a longer or shorter period: thus, for example, I have seen the interstitial hernia develope itself so as to acquire half the size of the first, and remain for many years without escaping from the inguinal ring; sometimes, after having made its nidus in the canal, it finishes by making its escape externally; and this long delay in the canal, recognizable by the dilatation of its anterior wall, appears to me to be the essential cause, not hitherto recognized, of the displacement of the vessels of the spermatic cord. This being the state of things, one may judge of the advantage derivable from the application of bandages to the external ring, according to the common method. They transform bubonocele or oscheocele into interstitial hernia, and only prevent strangulation by the external ring, leaving the individual exposed to the danger of strangulation by the abdominal ring. They do not even remedy the common inconveniences of simple hernia; and as the pad does not allow any thing to escape externally, and very much conceals the projection of the canal, the continuance of inconvenience has been attributed to the most fanciful causes. [A case is related showing the inutility of the ordinary bandages. And M. Malgaigne continues,] I might multiply cases of this kind; but any one may make upon the first hernia which he witnesses, an experiment which will lead to the same results. Apply the thumb upon the external ring and nothing escapes externally; the patient says that his hernia is kept up. Place the thumb upon the internal ring, and the patient will say that it is much more effectually kept up, and that he finds, on making any exertion, that there is greater firmness of the abdomen. One may easily understand, also, that as the hernia is not completely maintained by the common mode, a definitive cure cannot be obtained. The external ring only is acted on; the obliteration, if it take place, is only of the external ring, and the canal will always remain open for interstitial hernia. Now and then, as exceptional cases, cures have taken place; but as it has not been possible to reproduce them with any certainty, by the same means, the facts have been doubted. It has been simply believed that the truss sufficed for the cure of young subjects; nevertheless the number of exceptions to this would scarcely be believed. M. Bourat, one of our best bandagers, told me, with an air of triumph, that, out of fifty children, he probably did not fail to cure ten. But this I cannot, from my own experience, believe. I have had innumerable cases of congenital hernia under my own eyes, which have existed twenty, thirty, forty, and in one instance, fifty-three years, notwithstanding the employment of the common bandage. But how comes it that some have been cured, but that others have not? In my opinion, this depends on the form and on the size of the pad. If the pad rest only on the external ring, there will be no more cases of cure in children than in adults. But if by a happy circumstance, the pad be badly made, too large for the object had in view, it rests on the canal, and may effect its obliteration. In young subjects, the canal is so short as to be readily compressed by a pad of moderate size, even badly placed; and the greater vitality explains the more frequent success; but in the adult, very large pads would be required to produce the same effect; and in simple cases, too large a pad is considered as ill made: I have seen a cure of this kind entirely accidental. Lastly, as a pad of moderate size may rest upon the external ring, without being at all supported by the os pubis, it happens, if the pressure is at all considerable, that pain and excoriations of the skin are the consequence, together with engorgements of the cord terminating in varicocele or engorgements of the testicles. Many patients, treated during the late years by the wooden pads of Carpenter, which rest upon the external ring and the pubis, have been compelled to give them up in consequence of pains and excoriations. M. Devergie sent to me a young man with a double inguinal hernia, and at the same time, an orchitis of

each side, the effect of pressure by a common truss. Excepting the complication of hernia with the testicle in the canal, I cannot imagine a more embarrassing case. I have examined at the "bureau central," in a certain number of individuals, what was the proportion of engorgements of the cord and of the testicle. In 200 cases of hernia, I have found sixty-five lesions of this kind; i. e.

Engorgements of the cord, most frequently with varicose dilatation	40
Engorgements of the testicle	23
Atrophy of the testicle	1
Hydrocele	1

One must not, certainly, attribute all these secondary lesions to the action of the truss; for I have found varicocele and engorgements of the cord and of the testicle in individuals who have had old hernia, but who had never worn a truss; and here the cause is the pressure of the hernia itself. And it may be asked, if in the other cases the pressure of the hernia would not have sufficed to produce the same effect; but, in addition to the fact that the action of the truss is too direct to admit of denial, the most favorable conclusion for the common method would be that it is as likely to be the means of producing engorgements of the testicles as herniæ which are not reduced.

The motive which has induced M. Malgaigne to write this paper, is that the old method of employing trusses is almost universal in Paris, and because, as he adds, although the revolution is made in the science, it still requires to be made in practice.

The consequences deducible from what has been said, are, that every hernial bandage which presses upon the external ring, in inguinal hernia, is a bad bandage; and that the first principle applicable to the maintenance of hernia within the abdomen is to make pressure upon the internal ring and upon the canal. The form, dimensions, and degree of pressure of the pad are subjects to be hereafter treated of, together with the questions—In what case is a radical cure by means of a truss, possible? and what are the indications and chances of success?—*B. and F. Med. Rev.*, Oct., 1839, from *Bulletin Gén. de Thérap.*, *February*, 1839.

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42. Roux *on Lacerations of the Perineum and Recto-Vaginal Septum.*—Partial laceration of the perineum is an accident of very frequent occurrence in women who have borne children; but fortunately it is not of serious consequence, as Nature is almost always sufficient to effect a cure.

In some rare cases—where the vulva chances to be directed or turned forwards more than usual, and the perineum is therefore somewhat longer than is common—the rupture has taken place in the centre of the stretched perineum, and the head of the child has actually been protruded through the ruptured opening: M. *Moreau* states that there are at least forty cases of this strange accident on record.

Of a much more serious and distressing nature is the misfortune of a laceration along the whole extent of the perineum, including the sphincter ani and perhaps part of the recto-vaginal septum. As might be expected, this lamentable accident is very generally the result of a first accouchement; and more especially in those cases where recourse has been had to the use of instruments The condition of the patient soon becomes most miserable: the power of retaining the alvine and vaginal discharges is either entirely, or in a very great measure, lost; and as the efforts of unassisted Nature are rarely sufficient to effect a healing of the divided parts, the life of the poor woman is generally wretched in the extreme. True it is, that instances are known where women so affected have contrived to conceal their condition from their husbands, and have actually conceived and given birth to children; but such cases constitute only the exception to the general rule.

As long as the sphincter ani is not torn across, the treatment of a lacerated perineum is quite simple, and is almost always successful. All that is requisite

is, that the patient lie a-bed with the limbs retained close together, and keep the parts clean by frequent ablutions.

The treatment of the more serious accident—when the vulva and rectum are lacerated together, so that they communicate with each other, and form, as it were, a common cloaca—has not certainly been studied by surgeons with that attention which its importance requires.

Even in some of the most recent treatises on surgery, the subject is scarcely, if at all, alluded to. Judging from the reports of such cases as have been published, the attempts to effect a cure have very generally failed. According to M. *Roux*, French surgeons have been seldom willing to interfere, as there seemed to be such feeble hopes of success.

He is now of opinion that the failure has been mainly attributable to the faulty means employed in retaining the disjoined edges together.

It was in 1832 that he was fortunately induced to substitute the use of the *quilled* in the place of the *interrupted* or the *twisted* suture—one of which methods had been hitherto uniformly practised.

Since that period he has operated in eleven cases of complete rupture of the perineum, with the good fortune of effecting a cure in the most of them.

The history of his first case is especially interesting, and deserves to be mentioned. It occurred in a young lady, (the wife of a medical man,) who most urgently requested M. *Roux* to try some operation to relieve her from her miserable condition. The following was performed: The edges of the fissured parts being previously *avivés*, four needles were passed through from one side of the perineum to the other, and the *twisted* suture was then practised, as in the ordinary operation for hare-lip. Every thing seemed, for some time, to promise well; the threads were removed on the seventh day; but two days subsequently the line of union gave way, and the patient was as miserable as ever. She urged, however, a second attempt to be made; and M. *Roux*, having studiously considered all the particulars of the case, now resolved to substitute the *quilled* in place of the *twisted* suture, in the hope of being thus able more effectually to bring the entire depth or thickness of the fissured parts in strict contact, and to keep up a certain degree of pressure on these parts during the process of cicatrization.

Having again made the surfaces to be united raw, he passed a largish dissecting needle, armed with a double ligature, from without inwards, and at about an inch or rather more from the edge of one flap, to the very deepest part of the wound close to the anus; then drawing it outwards, he now passed it from within outwards through the opposite flap. Two other sutures were then passed in nearly the same manner: the one at the centre of the fissured perineum, and the other close to the *fourchette*. The needles having been withdrawn, a portion of a caoutchouc bougie was now laid along the right side of the perineum, between the loops of the ligatures, and the other ends of the ligatures were drawn tightly, so as to cause the bougie to press with tolerable firmness upon the right side of the perineum. A second portion of bougie was now laid along the left side of the perineum between the two threads of each double ligature, and secured in its place by tying the ligatures so close and firm upon the bougie as to cause it to press well upon the subjacent parts: "we need have no fear of drawing the two edges too firmly together," says M. *Roux*. As the lips of a wound are apt to be somewhat everted when a quilled suture is employed, it will be generally found necessary to pass two or three stitches of the interrupted suture, so as to bring and retain them in strict apposition. The following remarks on the superiority of the quilled over every other form of suture, in the accident now under consideration, are extracted from a memoir, which was recently submitted by M. *Roux* to the Royal Academy of Medicine.

Having detailed the particulars of a case wherein it had been successfully used, he proceeds to remark: "We can now judge of the superior efficacy of this (the quilled) suture in the treatment of lacerated perineum. As it is with curved needles that ligatures are passed, it is obvious that a much greater depth or thickness of parts can be embraced than if straight needles were used. The

ligatures, too, although they may have a tendency *se redresser*, in consequence of their two ends being drawn tightly together, can never become so unyielding and so straight, as straight needles—such as are used in practising the twisted suture—must necessarily be. The uniform pressure from the cylinders, placed along each side of the wound, cannot fail at the same time to retain the two edges much more accurately than can be done by means of any other form of suture. We may allude also to the circumstance of the hurtful constriction of the two edges being in a great measure obviated by the interposition of the cylinder between the ligatures and the skin: hence there is much less risk of the sutures working their way out, before cicatrization has taken place. Moreover—and this is not unimportant—all escape of any fluid from the vagina or rectum between the approximated edges, is much more effectually prevented in this than in any other way; as the communication between the bottom of the wound and the surface is quite closed up."

With respect to the medical treatment of the patient, M. *Roux* very properly recommends that she should be kept for several days before the operation on a very light unirritating diet, and that the bowels should be acted upon gently but regularly, so as to remove, if possible, all their fæculent contents. It is of the greatest consequence that they should be quite quiet, and have no tendency to be relaxed on the day of the operation, nor yet for a week afterwards; as it must be obvious that the efforts of the rectum to empty itself must necessarily tend to strain, and perhaps to burst open again, the recently-united surfaces. In some patients it will be found necessary to exhibit opiates, for the purpose of inducing the requisite constipation. During the first six or seven days, the food and drink must be taken in as small quantities as possible. At this time, if hitherto there has been no action, a gentle aperient may be given, before the ligatures are withdrawn—which step should not be taken until the following day.

As affording another precaution to prevent any disturbance of the wound, the urine should be drawn off with the catheter at regular intervals: perhaps the best plan is to leave the instrument in the bladder. It is scarcely necessary to add, that the patient must remain entirely quiet: to prevent the movement of the limbs, they should be tied together.

We shall now briefly mention the result of the eleven operations which M. *Roux* has performed for the cure of lacerated perineum, by means of the *quilled* suture. In all, a copious suppurative discharge from the vagina followed on the second or third day, and an uneasiness, more or less considerable, was experienced in voiding the urine. That portion of the fissure nearest to the anus is almost always the latest of healing. At this point there usually remains for some time after the rest of the wound has cicatrized a small gap, such as follows the operation for fistula ani; and even when the greatest care has been taken to pass one of the ligatures through the *eperon* of the recto-vaginal septum, a length of time is required before the communication between the two passages is entirely obliterated;—the escape of the intestinal gas and fæculent contents retarding the complete coalescence of the edges of the opening. By proper attention, however, and by the occasional application of the nitrate of silver, the fistula gradually contracts, and will ultimately cicatrise. Of the eleven cases, a cure was effected in seven by a single operation. In one the operation was unsuccessful the first time, but succeeded perfectly the second time. Two of the patients died—one from the effects of phlebitis, or of purulent absorption; and the other, (in whom the laceration of the perineum was complicated with prolapsus of the rectum and of the vagina,) from chronic-enteritis, to which she had been long subject. In the remaining case, every thing went on favourably till the fourteenth day, when, after a sudden action of the bowels, the adhesion of the united surfaces gave way: a second operation is, however, to be performed.

Before drawing our remarks to a close, we shall very briefly allude to those cases, where a fistulous communication between the rectum and vagina, unaccompanied, however, with any laceration of the perineum, has taken place.

It is a much less serious accident than that of which we have been treating hitherto. Under judicious management, the efforts of nature alone will generally suffice to effect an obliteration, unless the fistulous opening be very considerable.

M. *Saucerotte* mentions a case, where the perineum and part also of the recto-vaginal septum were lacerated during a difficult parturition, the sphincter ani, however, remaining entire. Four months after the occurrence of the accident, the edges of the fissure were *avivés*, and brought together by means of six points of the interrupted suture. The bowels were not allowed to act for eleven days; but then, after an evacuation, three of the stitches gave way: the extent of the laceration, however, was reduced by one half. A second operation was, therefore, performed; the sphincter ani was first divided, and after paring the edges of the fissure anew, four stitches were introduced. After the lapse of three months the fistula was quite healed.

On this case M. *Sedillot* has, it appears to us, very justly remarked that the sutures seem to have been not only of no use, but rather to have retarded the process of cicatrization; and that if merely the edges of the fissure had been *avivés*, and the sphincter ani divided,* the cure would probably have been much more rapid. This opinion is confirmed by the result of a case reported by *Noel* in 1794. In this case the entire perineum, the sphincter ani, and a portion of the recto-vaginal septum had been lacerated. After the edges of the fissure had been made raw, the perineum was brought and retained together by means of two twisted sutures, one near the anus and the other close to the *fourchette*. The limbs of the patient were then tied together; and an open state of the bowels was encouraged by the administration of laxative medicines.

On the sixth day after the operation, the anterior needle being withdrawn, all the alvine contents were found to pass by the anus; the second needle was not removed till the twenty-fifth day, and by that time *the whole had cicatrised*.

It may, therefore, be fairly questioned whether it is very advisable to employ sutures in the treatment of a recto-vaginal fistula. If the perineum be lacerated at the same time, the attention of the surgeon should be mainly directed to get rid of this accident, and leave the contraction and coalescence of the fistula to nature, after paring its edges, and perhaps occasionally touching them with some stimulant or caustic.—*Med. Chirurg. Rev.*, from *Journal des Connais. Med. Chirurg.*

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43. Jobert *on Internal Piles.*—It is now generally admitted by surgeons, that excision is the most effectual, and at the same time the least dangerous, method of removing internal piles. The only serious objection to its adoption is the risk of consecutive hemorrhage. "In two-fifths of the patients on whom I have operated," says M. *Dupuytren*, "and in whose cases I did not employ any hæmostatic means after the excision, an internal hemorrhage supervened." The quantity of blood thus lost in some cases is very alarming, the rectum and even the greater part of the colon becoming filled. Several patients have died in consequence. The absence of valves in the veins of the portal system will account for the profusion of the discharge.

To prevent this alarming accident, *Dupuytren*, after having tried all other expedients, declared that the only one to which the surgeon could safely trust was the actual cautery applied to the bleeding surface. He assures us that by this means he always avoided any consecutive bleeding.

M. *Jobert*, however, states that he has, on several occasions, known alarming hemorrhages supervene after the use of the cautery. It is also to be remembered that this violent remedy always induces most distressing inflammation and tumefaction of the cellular and adipose tissue of the anus, and that the rectum and bladder not unfrequently sympathise most severely. To avoid these

* Mr. *Copeland* has, we believe, recently pointed out the advantage that may be derived in the treatment of recto-vaginal fistulæ, from dividing the *sphincter ani*. It would seem that in this idea he has been anticipated by the French surgeons.

inconveniences, M. *Jobert* has, of late years, adopted the following practice in preference:

The patient having made the piles to project out as far as possible, the surgeon lays hold of them by means of a hook, so as to retain them there as long as is necessary, and divides them slowly and carefully, applying a ligature to each vessel, as it starts; (je les devise lentement, *et à mesure qu'un vaisseau fournit du sang, j'en opere la ligature au moyen d'un fil simple.*)

The gut should not be returned immediately; but if, after it has been well sponged, no bleeding points be seen, it may be replaced with a perfect assurance that no consecutive hemorrhage of any importance will follow. The patient usually recovers without much suffering.

M. *Jobert* has related several cases in illustration of his practice.

A gentleman had for upwards of ten years suffered exceedingly from pain and suffering after defæcation, in consequence of numerous piles, internal as well as external. Some of these were ulcerated on their surface; and hence an almost constant purulent discharge and occasionally also very copious hemorrhages flowed from the bowel. To add to the patient's sufferings, the gut became frequently prolapsed after every alvine evacuation. M. *Jobert* advised him to submit to an excision of the hemorrhoidal tumours. Several arteries and large veins were tied; no hemorrhage followed; and, at the end of fifteen days, the patient was completely well.

The case also of a lady, who for several years had suffered martyrdom from the anus and extremity of the rectum being almost quite plugged up with a mass of hemorrhoidal tumours, is detailed at considerable length. M. *Jobert* at first hesitated what line of practice to pursue, in consequence of the size of the varicose vessels, and of the extent of the disease. At first he proposed to adopt *Dupuytren's* method of using the actual cautery after excising the tumours; but finally he followed the plan recommended above—*c'est à dire la section graduée et la ligature des vaisseaux à mesure qu'ils etaint devisés.*

The cure was quite satisfactory.

M. *Jobert* assures us that he has now adopted this practice in a great many cases, and he is convinced that it is by far the most advisable for the removal of internal hemorrhoids.—*Ibid.*, from *Gaz. Med. de Paris.*

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44. Jobert *on Fissures of the Anus.*—It is only of late years that this most troublesome and distressing affection has been properly understood. It used to be confounded with syphilitic rhagades and ulcerations. It is to the late Baron *Boyer* that we owe the first right description of the disease, and of the most successful mode of treating it. Regarding the fissures as the result or consequence of a spasmodic contraction of the sphincter ani, he showed the necessity of dividing the margin of the anus including the fibres of this muscle; and his practice has been almost universally followed.

The practice is right; but the theory is more than questionable. The spasmodic contraction of the sphincter seems to be rather the effect than the cause of the ulcerated fissure of its mucous covering and of its surface. It is the irritation, to which its superficial fibres are exposed, that induces the spasmodic contraction of the muscles. It is of importance to attend to this circumstance, viz. whether the ulceration is limited to the mucous lining of the gut or whether it has extended to the fibres of the sphincter ani, in the management of the disease. In the former case it is rarely necessary to have recourse to the scalpel; the ulcerated fissure will generally heal under the use of caustics, &c. But when once the fibres of the sphincter are involved, and the consequent spasmodic contraction of the muscles is induced, the application of any irritating substance tends only to aggravate the suffering, and the only successful mode of treatment, it has been supposed, is fairly to divide the muscles across.

M. *Jobert* has found, however, that even under the latter circumstances, it is not always necessary to effect a complete division of the muscles—one of the occasional troublesome results of which is to cause an incontinence of the rectum.

He has succeeded in removing the disease by simply excising, either with a scalpel or with scissors, the membrane lining the ulcerated surface and a small portion of the subjacent soft parts: the fissure is thus brought to the state of a simple wound, and the pain occasioned by the contact of the two lips no longer continuing, the spasmodic contraction of the sphincter ceases.—*Gazette Médicale.*

In a recent number of the Journal "*Experience*," M. *Mondiere* has published several cases of fissure of the anus successfully treated by the introduction, night and morning, of bougies (*meches*) of lint well smeared with an ointment composed of lard, sugar of lead, and extract of belladonna; and, when the contraction of the anus is overcome, by the application of lunar caustic to the surface of the fissure. It is to be remembered that the introduction of any foreign substance into the rectum, when a fissure exists, is almost always attended with severe pain. We must not, therefore, be induced to discontinue the attempts to dilate the anal orifice, although the patient should complain for some time after each introduction.

M. *Mondiere* does not seem to have been aware of the distinction in cases of fissure of the anus pointed out by M. *Jobert*, and mentioned above.—*Ibid.*

45. *On Torsion of the Arteries.*—Dr. Remak recommends a modification of the operation of torsion of the arteries, which consists in seizing the vessel transversely with a pair of sharp wedge-shaped forceps, and then pressing forcibly, so as to divide the internal coat. The extremity of the artery is then seized with another pair of forceps and twisted, while the torsion is prevented from extending up the artery by the first pair. The vessel is thus less injured than in the common proceeding, and the internal coat, which shrinks after being divided, offers an effectual barrier to the blood. The operation was tested experimentally upon a horse: the carotid was divided, and torsion, performed as recommended above was sufficient to restrain the hemorrhage, even when the horse was made to trot briskly.—*B. & F. Med. Rev.*, from *Med. Zeit.*, *No.* 6, 1839.

46. *Artificial Anus formed in the left Lumbar Region.*—In our preceding No., p. 228, we noticed a case in which this operation had been performed by M. Amussat, and we find from recent journals, that it has been again resorted to by the same distinguished surgeon in a second case.

The subject of the latter was a M. T., aged 62, of a very feeble constitution, and habitually a sufferer from costiveness and piles. "Defecation was accomplished with extreme difficulty, and the fæces frequently accumulated in the rectum so as to render it necessary to extract them. The stools were generally passed with blood.

"For the last three years, in addition, the fæces were mixed with purulent and ichorous mucus, and exhaled a very fetid odour. The different methods of treatment adopted by this serious affection, which seemed to be seated in the great intestine, were of no advantage.

"M. T. consequently determined to come to Paris, about the 15th of May, 1839. His strength diminished every day, and he was extremely thin; and when the stools came away after the constipation, which was continually increasing in obstinacy, he felt excessively exhausted.

"Dr. Foville being consulted examined the rectum, where he ascertained that at the distance of two inches and a half from the sphincter there was a carcinomatous tumour, which had ulcerated, and which in some measure blocked up the intestine. This tumour was formed by a scirrhous prominence in the shape of an irregular ring studded with knots, into which it was difficult to introduce the end of the forefinger. On inserting a *porte-empreinte*, it was found that there was a stricture an inch and three-quarters in length. The obstacle which had stopped the course of the fæces, and the real source of the morbid secretion, were now ascertained. The correctness of M. Foville's diagnosis was acknowledged in a consultation at which MM. Recamier, Amussat, Breschet, and Puyoo, were present. Different modes of treatment were proposed. Both dilatation and the use of a ligature were rejected. Excision was equally objected

to, as it was feared that even a slight hæmorrhage might be fatal to a patient who was already so remarkably weak.

"The method finally resolved upon was to crush the tumour, which was proposed and put into execution by M. Amussat, on the 30th of May. The operation was performed with long forceps which pinched and crushed the most prominent points of the cancerous tumour. The patient felt scarcely any pain. Nothing came away during the operation but a small quantity of blackish blood mixed with ichor. A sort of fleshy detritus was discharged at the same time by the anus. It was thought proper to keep up a continued stream of cold water in the rectum, in order to prevent the occurrence of inflammatory symptoms.

"Some sloughs or fragments of atrophied membrane came away in consequence of the efforts made to detach them.

"A week after this operation it was agreed that to complete its effects, cauterization would be necessary; M. Amussat cauterized seven times, by means of a speculum and cylinders of caustic potash, with intervals of three or four days between each application, without any sign of inflammation appearing about the bladder or peritoneum.

"Each time that the patient was cauterized, small refrigerating clysters were prescribed. Under the influence, either of the crushing or the cauterizations, which were applied from below upwards, and from within outwards, the tumour was reduced to little more than half its size. Meantime, M. T.'s general condition grew worse. The stools did not occur till after a lapse of ten or twelve days, and then with such violence as to lower the patient till he nearly fainted. His attenuation was extreme, and the skin on the sacrum was on the point of ulcerating. Hence, it was not thought prudent to continue the cauterizations, which must have been multiplied, in order to destroy by successive layers what still remained of the tumour.

"M. T.'s symptoms were so extremely serious, that the only alternatives were to abandon him to a speedy death, or to adopt the only resource of the surgical art in such circumstances. The operation for artificial anus, which had lately been crowned with success, naturally suggested the thought of trying it on the present occasion. The double object might here be attained of remedying the retention of the fæces, and obviating their action upon the diseased rectum. On the 13th of July, there was a fresh consultation, at which Dr. Seguin was present, in addition, and at which the necessity for the operation was unanimously resolved upon. It was performed by M. Amussat on the following day according to the method he had already followed.

"An incision four inches and a half in length, at the distance of four fingers' breadth from the spinous processes of the vertebræ, was made in the middle of the space comprised between the last false rib and the superior margin of the os ilium.

"Towards the anterior angle of the wound a membranous projection was observed, formed by the peritoneum, and below which seemed to be the small intestines.

"The colon in the left lumbar region was strongly drawn back upon itself, and was covered in a great measure by the quadratus muscle, whose fibres it was necessary to cut across. The intestine having been taken hold of with the necessary precautions, was incised in about the posterior half of its circumference. Nothing came out but gases and some small balls of fæcal matter. The colon was then drawn towards the anterior commissure of the incision made in the integuments, and fixed there by four stitches of the interrupted suture. Three stitches of the twisted suture were then passed through, to bring together the lips of the wound, but leave the intestinal aperture entirely free.

"There was no general reaction, so to say. The feverishness under which the patient had continually suffered for a long time, particularly towards the evening, was scarcely increased during the three or four days which followed the operation.

"In spite of the opening thus made in the digestive tube the fæces did not immediately change their course; watery injections thrown into the colon passed

entirely by the natural anus. The anormal orifice did not give vent to the fæces till the 18th of July, and the evacuation was very copious. For some days the fæces continued to pursue their accustomed course, gases and liquids alone being discharged by the lumbar aperture. In order to dilate this orifice, it was necessary to employ, in succession, prepared sponge, elastic gum tubes, and at last wax bougies. These dilating substances facilitated the passage of the fæces by the artificial aperture.

"To sum up, M. T. is evidently in better health than he was three months ago. He has been able to set off for his residence in the country. The hectic fever has disappeared; and the skin, which was yellow, and of an earthy tint, is growing clear. All the functions have been re-established as well as so long and so great a deterioration of the system will permit. There is no longer any tympanitis, nor any forced stagnation of the fæces. The stools are regular, and figured fæces are expelled from the artificial orifice.

"The tumour in the rectum has remained stationary; it has merely become harder, which must render it less capable of being irritated by the contact of the fæces, which may still continue to pass by the rectum, but which do so less and less every day.

"Narcotic and chloruretted injections were indicated."

This as well as the previous operation speak in favour of Callisen's method as modified by M. Amussat. These modifications are as follows:—"1. Instead of an incision parallel to the external margin of the quadratus, he makes a horizontal one, which renders it more easy to uncover the intestine, and carry it to the anterior angle of the incision.

"2. The intestine is incised only in the posterior half of its circumference. This precaution will doubtlessly prevent the troublesome protrusion of the mucous membrane externally, and it will facilitate the cure of the artificial anus itself, when the obstacle which has opposed the expulsion of the fæces has disappeared. This kind of obstacle comprehends various causes susceptible of being removed or combated, such as hardened and accumulated fæces, polypi and other tumours, calculi, syphilitic vegetations, collections of different kinds in the pelvis, &c.

"Thus art may hope to remedy the inconvenience which it has caused for the preservation of the patient; but, if we cannot hope to re-establish the natural course of the fæces, their new mode of passage will have a favourable influence on the morbid growths existing in the sigmoid flexure of the colon or in the rectum. The vitality of the tunics of the intestines being diminished, the pathological alterations of a scirrhous character situated in them will go through their final transformations more slowly; and this slackening in their destructive progress will be another benefit derived from the artificial anus.—*Lond. Med. Gaz.* November, 1839.

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47. *Historical Notices on the Occurrence of Inflammatory Affections of the Internal Organs after External Injuries and Surgical Operations.*—This is the title of a very interesting paper in the Number of the *Edinburgh Medical and Surgical Journal* for October last, by Dr. William Thomson. The following are the conclusions which the author draws from his researches:

1. That individuals labouring under a chronic affection of any internal viscus are liable to have an acute inflammatory attack induced in that viscus, by local injuries of remote parts of the body.

2. That inflammatory affections of different organs and textures are liable to occur in individuals who have suffered local injuries, but in whom there is no reason to suppose any disease of these viscera to have existed previously.

3. That different viscera are liable to be affected in different cases of injury of the same part of the body; and that, on the other hand, the same viscera may become affected in cases of local injury of different parts of the body.

4. That in many instances of local injury, pus is effused into remote organs, though suppuration has not occurred in the seat of the primary injury.

5. That the recurrence of affections of remote organs in cases of this nature

is generally accompanied by some change in the appearance of the primary injury—as the cessation of the effusion of pus in cases in which suppuration had commenced.

6. That these secondary affections of remote organs occur at very different intervals of time after the reception of the primary injury.

7. That symptoms occasionally occur in cases of this nature, that enable the practitioner to determine which organ is affected—as cough, when the lungs, and jaundice when the liver, become inflamed.

8. That in most instances, however, the progress of the disease in the remote viscera is very insidious, and affords few or no indications of its existence.

9. That the most probable mode of preventing the occurrence of inflammation in remote organs, subsequently to injury or amputation, is to moderate the constitutional inflammatory tendency, which local injuries produce to a greater or less degree, and particularly to direct these precautions to the organs that may be known to be predisposed to disease, or that show any tendency to become affected.

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48. *Tracheotomy in Croup.*—It appears from a recent discussion at the Royal Academy of Medicine, that of 140 patients labouring under croup, on whom tracheotomy had been performed, 28 were cured, and 112 died. When the character of the disease is considered—the aggravation of the inflammation likely to be occasioned by the incisions into the inflamed part—and the delay and difficulties generally thrown in the way of the operation, this result is more encouraging than we had been led to expect.

The following table shows the names of the operators and the results in the cases alluded to:

M. Amussat, operations	6,	cures 0,	deaths 6
M. Baudelocque,	15,	0,	15
M. Blandin,	5,	0,	5
M. Brettoneau,	18,	4,	14
M. Gerdy,	6,	4,	2
M. Roux,	4,	0,	4
M. Trousseau,	80,	20,	60
M. Velpeau,	6,	0,	6
	140,	28,	112

Journ. des Connaiss. Méd., June, 1839.

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49. *Cases of Chronic Hydrocephalus successfully treated by Pressure.* By J. F. Barnard, Senior Surgeon to the Walcot Dispensary.—The following cases illustrate the efficacy of a mode of treatment which Mr. Barnard strongly advocates in chronic hydrocephalus. Mr. Barnard informs us, that he was led to adopt this plan of treatment "from observing some adult heads, of such a size as could have been caused by no other than hydrocephalus in infancy." In these cases nature probably had effected a cure by a comparatively early union of the bones of the head, thereby forming a natural and most efficient bandage. Hence, the obvious indication to imitate nature and apply gradual compression to the head.

Case 1.—A child, about a year and a half old, was born to all appearance healthy, and continued so until six months old; when the head was first observed to increase in size. Mr. Barnard did not see it until the disease was so far advanced as to make him almost despair of its terminating favourably. The head was exceedingly large, weighing nearly as much as two-thirds of the rest of the body, and measuring in circumference twenty-two inches and a half. The child lay in a state of stupor, and was unable, in the least degree, to move its head. There was slight strabismus and a rolling of the eyeballs, and almost constant startings of the muscles of the whole body, but more particularly of the face. The countenance had a cadaverous appearance, and the skin was of a yellowish colour; the eyes were sunk in their sockets, and enclosed in a dark ring. The

flesh was flabby and seemingly hanging on the bones; the evacuations from the bowels were particularly unhealthy, sometimes green, sometimes blackish, but never of a healthy colour, nor indeed had they been healthy since half a year after its birth. The tongue was constantly covered with a thick white coat; when its head was moved it screamed, and seemed sensible of pain. The head was directed to be shaved perfectly clean, strips of adhesive plaster, about three quarters of an inch wide, were then applied completely round the head from before backwards, and so that the ends overlapped each other two inches behind, and covering the space from the eyebrows to where the hair commences, and as low down as the ears would permit; then, with cross strips, from one side to the other, over the crown of the head; and, lastly, one long strip, reaching from the forehead within half an inch of the root of the nose over the crown of the head, likewise to the nape of the neck. This gave effectual support to the parietes of the cranium. The whole head was kept constantly covered with linen dipped in cold water, and the child took no other medicine than a little castor oil, when the bowels required it. The good effects of this practice were evident; in less than a week the little patient could move its head much better, the squinting had disappeared, the secretions from the bowels were more healthy, and the startings of the muscles were less frequent, He had not screamed on rolling or moving the head since the bandage was applied. In a fortnight, the size of the head was reduced in circumference three quarters of an inch; the child was more lively, and began to take notice of the persons around it; the secretions from the bowels were perfectly healthy and evacuated regularly; the tongue nearly clean, and the skin of a natural colour; the countenance more composed and animated.

Two months after the bandage was first applied, the child appeared in every respect healthy, but the head was still larger than it ought to be—measuring twenty inches and rather more in circumference; the flesh was firm, and the skin of a healthy mottled hue. The bandage was worn about two months longer, having been renewed about once a fortnight. The bones were then united, and the head firm, and the child well, only requiring time to bring its muscles into action which had been so long quiescent.

Case 2.—J. W., a child, ten months old, who, according to the account received from the parents, was born perfectly healthy, and remained so for a month, when it appeared to fall into a sickly and unhealthy state, as they supposed from dry nursing, the mother being unable to suckle it. Two medical men in succession had been consulted, without advantage, and the head, I was told, had been enlarged for some months. It now measured twenty-one inches in circumference; the fontanelles were quite open and distended, and the bones loose and moveable; the complexion sallow, face bloated, muscles relaxed and flabby; pupils dilated and insensible to light, strabismus, and sometimes convulsions. She lay in a half comatose state, and appeared to be insensible to things passing around her; bowels regular, but excretions unhealthy. Mr. Barnard directed the head to be shaved, and then applied the adhesive plaster in the manner described, omitting the application of cold water.

March 5. In a week the general symptoms were improved, secretions from the bowels healthy, and the squinting gone; head not decreased in size; plasters firm; had taken her food better.

16. Has had no convulsions since second; bowels still continue regular, with only one dose of castor oil; countenance much improved, and complexion clearer; begins to take notice of things passing around her.

April 10. Plasters have begun to loosen; they were, therefore, removed, and fresh applied. The head was found to have decreased half an inch.

From this time the health of the child regularly progressed, and every bad symptom had left her by the end of the month.

May 6. The child has gained flesh, and the muscles become much firmer. Appetite good, and has generally a healthy appearance. The plasters were again renewed, and the circumference found to have decreased an inch. They were again renewed in the beginning of June, and left off the following month,

when the child appeared in perfect health, the head measuring eighten and a half inches.

Case 3. January 15.—Jane Parfitt, a child eight months old, was born with a large head, which has sensibly increased up to the present time. Both the anterior and posterior fontanelles are very open, and the parietes distended; the bones of the skull are thin, moveable, and separated from each other. She is constantly in a recumbent position, from inability to sustain the head upright; pupils dilated, and insensible to light; slight strabismus, occasional convulsions, and great restlessness, sickness, and unnatural secretions from the bowels; appetite good, almost voracious, face pale and emaciated; an inattention to surrounding objects, amounting almost to coma. The head was shaved, and the plaster bandage applied; the circumference of the head is nineteen inches. The compression produced no additional uneasiness, nor any increase of symptoms. Castor oil to be given occasionally, if required.

During the first month there was little apparent alteration in the size of the head, or the state of the patient, excepting that the convulsions were thought to be not so frequent, and the evacuations had a more healthy appearance. The castor oil had only been given twice; strapping quite firm.

March 2. Has had no convulsions for a fortnight; strabismus gone, evacuations natural and regular; head appears to be gradually getting firmer; expression of the face much more pleasant and healthy; sleeps well.

15. The plaster was renewed as it had become corrugated in several places; the long strip, from the forehead to the occiput, was omitted, as from the increased firmness of the head it appeared to be useless. At this renewal the head was found to have decreased in size half an inch.

The case went on well for six weeks, without one untoward symptom. The child has increased in flesh; the evacuations are natural; the convulsions and restlessness have entirely disappeared; the head is much firmer; the fontanelles are smaller, and the sutures are nearly closed.

May 3. Strapping renewed; the head, by measurement, has diminished but little; the child is better able to move it, although the muscles of the neck have not yet sufficient strength to sustain it. Has cut four teeth since the commencement of the treatment.

From this time the little patient gradually improved in health and strength. The plasters were again renewed for the last time about the latter end of July; the child was now able to hold up its head with but little oscillation. In September it appeared in perfect health, with a head rather larger than common (measuring about eighteen inches in circumference,) but quite firm in every part, excepting a small portion of the anterior fontanelle. Mr. Barnard saw the child twelve months after, when it seemed, in every respect, to be well.

Case 4.—At six months old I decided on submitting to the process of compression the head of this child, which measured nineteen and a half inches in circumference. The fontanelles were much opened, and distended with fluid; the bones loose and moveable. The child was perfectly unable to sustain its head, and lay constantly in a recumbent posture; the countenance bloated and indicating distress; pupils dilated and insensible to light; strabismus, restlessness, and occasional convulsions; skin dry and harsh, and urine scanty; bowels rather costive. The head was shaved, and the plasters applied on the first of June.

June 15. There is a marked improvement in the state of the child; he was much quieter, and the strabismus had disappeared; the pupils contracted little on the admission of light; countenance better; plasters firm.

July 2. Have had some trouble in keeping the bowels open with castor oil, but the child in every respect is better, the countenance with rather a comfortable expression; skin soft; and urine passed in a natural quantity. The plasters were renewed, and the head found to be reduced in size full half an inch.

24. The plasters again renewed. The child continues improving; the face has now a natural and pleasant expression, and every symptom of anasarca gone; bowels more regular, and requiring castor oil only about once a week. After

this the plasters were twice renewed, and the patient gradually improved, both in health and strength, until the beginning of October, when he was attacked with measles, which, however, he passed through favourably; and in the beginning of December, appeared to be in perfect health, with the head reduced to eighteen inches, and quite firm, except the anterior fontanelle, which was still partially open.

Case 5.—A child, twelve months old, whose head was observed to have been increasing in size for the previous four months, now measured in circumference nineteen inches; the fontanelles and sutures were much open, but the parietes were not particularly distended, although fluid could be distinctly felt; the whole head was loose and flabby, and the bones as it were floating; the countenance shrunk and pallid, and the body generally much emaciated; pupils dilated, and one eyelid dropped, which the patient seemed perfectly unable to lift; slight convulsions occasionally; but usually it lay in a quiet, sleepy state; took its food rather voraciously; the bowels irregular, sometimes loose and sometimes costive but the excretions always unhealthy. It had been attended by three separate medical gentlemen, who had given up the case as hopeless.

The head was shaved, and the adhesive bandage applied on the 10th of March; and, although compression was carried to a much greater extent than I had ventured on in any other case, no untoward symptom followed.

For three months no particular change in the state of the child took place; at this time, June the 10th, although the plasters were still firm, I thought it well, from the growth of the hair and other circumstances, to renew them, which accordingly I did. The bowels were still irregular, requiring occasionally a dose of castor oil, which answered the purpose exceedingly well, and no other medicine was given; the appetite still continued good; the food consisted of bread and milk and arrow-root.

July 15. The plasters again renewed; no particular change in the state of the patient. The head appeared rather firmer, but no alteration in size; the bowels more regular, and evacuations somewhat improved. Diet ordered to be altered to beef-tea and jellies.

September 5. Both eyelids in perfect action; no convulsions; bowels regular, and evacuations healthy; countenance expressive of ease and comfort; can sit up with little assistance, and appears lively; head much firmer, and reduced in size half an inch; gains flesh.

October 29. The head is firm and the sutures quite closed; the child begins to walk about, as yet rather staggering; plasters left off. The child continued to progress, and in three months was restored to perfect health.

Case. 6.—A child, three months old, was born with rather a large head, which had increased gradually up to this time, and measured seventeen inches. The symptoms were similar to the former cases, with the exception of squinting, and no dropping of the eyelid. The head was shaved, and the plasters applied on the 15th of August. In two months the condition of the child was much improved; the head firmer; no convulsions; bowels regular, and evacuations healthy. The plasters were reapplied twice in the course of the following three months, and no untoward symptom had presented itself. By the end of January, the child appeared perfectly recovered; the sutures had quite closed, and the anterior fontanelle nearly; but, strange to say, the head had not lessened in size from the commencement. It was suckled through the whole course, and seldom required the castor oil.—*Lancet, Oct.* 12, 1839.

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50. *On the Process of Reparation after simple Fracture of Bones.* By Bransby B. Cooper.—Twenty-four hours after fracture of the bones, a large quantity of extravasated blood is found effused into the cellular membrane of the muscles, filling up the spaces between the fractured extremities of the bones, and occupying the openings into the cancellated structure of each fractured extremity. The periosteum in the neighbourhood of the seat of fracture is also infiltrated with blood and thickened; so that a general extravasation of blood, attended

with tumefaction, is all that is to be observed as the immediate result of the injury.

The serous and red colouring matters of the blood now become absorbed, and shortly afterwards inflammatory action commences, which gives rise to the deposition of coagulable lymph. This adheres firmly not only to the periosteum, but also to the coagulum, which has now acquired a considerable increase in firmness, so as to produce a degree of stiffness of the limb which maintains the bone in a state of comparative rest. The effusion of lymph proceeds so as to fill the adjacent cellular membrane, to occupy the space between the separated fractured extremities of the bone, to thicken the periosteum, to fill up the interstices between the muscular fibres, and, in fact, to present so homogeneous a mass as to render it difficult to distinguish the various structures from each other. About this period the fractured extremities of the bones are found softened, granular, with their asperities partly removed, and firmly adhering to the surrounding lymph.

Blood-vessels now begin to be traced through the surrounding lymph, and an apparent anastomosis is established between the nutrient blood-vessels of the bone, those of the periosteum, and of the cellular membrane surrounding the lymph. A greater degree of firmness is also observed in the direction of the blood-vessels. This altered character of the effusion is most remarkable in the space between the fractured bones, where the lymph puts on the appearance of ligamentous bands more than that of cartilage. The whole mass, however, soon hardens and forms what is termed *callus*.

Contraction of the callus, apparently the result of interstitial absorption now commences, and continues till it produces a perfect contact of the overlapping extremities of the bone. A distinct cellular membrane may be observed between the muscles, forming a complete membranous covering to the callus, and continuous with the periosteum of the shaft of each portion of bone to some extent beyond the seat of the fracture.

Between the bones the callus now puts on the appearance of true cartilage, and at the point of contact no appearance of periosteum can be discovered. This interosseous cartilage is next converted into bone. Several red spots or discs are observed scattered irregularly through it, and round each of these osseous matter is deposited, which gradually extends through the whole mass. The extremities of such portions of the shaft as overlap each other, are now found to have lost the compact, and to have assumed a cancellated structure; so that if a longitudinal section be made through the fractured portions, the newly formed bone is found to be continuous with the cancellatud structure of each portion of the fractured bone. The whole medium of union is at this period enclosed in one continuous investing membrane, but no medullary cavity is yet formed.

The bone now grows less vascular, and a modelling process is established, by which the size of the adventitious deposit becomes reduced. The asperities of the bone are rounded off, grooves are formed for the passage of tendons, blood-vessels and nerves; and, finally, the medullary cavity is restored, when the process of reparation may be regarded as completed.—*Ed. Med. and Surg. Jour.* from *Guy's Hospital Reports*, No. VI.

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51. Ricord *on the Use of the Hydriodate of Potass in Syphilis.*—In the more confirmed, or, as M. Ricord has denominated them in his recent work, the *tertiary* forms of constitutional syphilis, no remedy appears to be so uniformly and so potently useful as the hydriodate of potash.

It certainly requires a good deal of practical tact to discriminate those cases to which it is more especially adapted. But, as a general position, it may be confidently asserted that, whenever a patient's system is deeply tainted—as for example, when the bones have become affected, or when it has become broken down or cachectic—this preparation of iodine is by far the safest, and also the most effectual, remedy that we can have recourse to.

The various eruptions, and, we may add, almost every form of cutaneous and mucous disease which are among the more early phenomena of the constitutional

infection, will be found to require, or at least to be much benefited by, the employment of mercury. Even in the treatment of these less severe affections, it is very useful to administer the hydriodate at the same time; as thereby the quantity of mercury necessary for the cure will be greatly diminished. We are not, indeed, of the number of those who attempt to refer all the worst cases of secondary syphilis to the maladministration of mercury; as we have repeatedly seen them occur in patients who had not taken a grain of it. But it cannot, nevertheless, be disputed that the indiscriminate use of this mineral in all the diseases, which are in any way connected with venereal infection, has been productive of the most pernicious results.

In almost every case of syphilitic affections of the periosteum and bone, M. Ricord has of late years renounced the use of mercury, and trusted to the hydriodate; associating it, according to circumstances, with sudorifics, tonics, bitters, &c. Most surgeons will admit that, when a bone has once become carious, the internal administration of mercury is hurtful. Now it is especially in such circumstances that the hydriodate may be given, not only with perfect safety, but with good hopes of decided advantage. Steel and other tonics may be usefully given at the same time; and the local treatment also must be strictly and judiciously attended to.

We could adduce an immense number of cases, not only of ulcerated tubercles, but also of venereal caries of the bones, to illustrate the truth of these remarks: but this would merely occupy a space which we cannot afford at present. The following extracts from M. Rattier's report of M. Ricord's practice embody the most useful hints.

"In our researches on the administration of the ioduret of potassium, we have been able to follow out the treatment of all the various forms of *tertiary* syphilis.

"Often the ioduret alone has been found sufficient for the cure; but, whenever any complication has happened to be present, it has received an appropriate medication.

"By having recourse at one time to tonics and stimulants, at another time to antiphlogistics, M. Ricord combines the various resources of therapeutics, according to the circumstances of each case; and in some patients who, in consequence of successive infections, have exhibited the disease in all its stages—primary, secondary, and tertiary—a local treatment has been directed to the chancres, the use of mercury* has caused the secondary symptoms to disappear, and the hydriodate of potash has been equally successful against the tertiary symptoms.

"Such is the basis of M. Ricord's treatment. If those principles, now explained, be not attended to, the physician will be apt to commit many serious errors; of which we meet with numerous examples in the assertions of those writers who have attempted to disparage the utility of the ioduret of potassium, on the ground that they have observed certain secondary symptoms resist its administration. Had a few mercurial pills been exhibited at the same time, these symptoms would speedily have vanished."

"In conclusion, the proto-ioduret of potassium amply deserves, in the treatment of *tertiary* syphilitic symptoms, all the praise which mercury is entitled to in the treatment of the *secondary* symptoms;—with this difference, that, very seldom or never, has it given rise to those numerous and distressing accidents which are too well known to have been frequently induced by the injudicious administration of its rival."—*Med. Chirurg. Review* and *La Lancette Française.*

52. *Wound of the Abdomen—Protrusion of the Bowels—Recovery.* A very remarkable case of this is mentioned by Mr. Alcock, in one of his lectures. A lady had stabbed herself in the abdomen, in a fit of jealousy. The surgeon first sent for, had endeavoured in vain, by dilatation and other means, to reduce the gut which protruded through the wound. "On entering the room," says Mr.

* M. Ricord has of late years trusted chiefly to the proto-ioduret of mercury.

A., "I found the patient lying on her back, with a large wet cloth over her person. On removing this I was somewhat startled by seeing the whole of the abdomen covered by the protruded intestines, of a dark red colour, against which the coarse cloth had been some half hour in contact; the patient almost continually vomiting, and at each effort fresh portions of viscera protruding. Our friend, in enlarging the opening, had increased, in a tenfold degree, the mischief; and finding that the woman's convulsive efforts protruded fresh portions upon him, had left her at last, frightened at the quantity exposed to view and his ill success in diminishing it. It appeared that an hour and a half had elapsed since the injury was inflicted. Several feet of intestine were exposed, many parts of a dark and purplish hue. A Portugese surgeon had been called in during the absense of the first, who declared she was a dead woman, and sent for the priest to administer to her soul. The intestines, with some difficulty and careful manipulation, were returned in a few minutes, and chiefly by taking care that, while the forefinger of one hand restored a small portion, the point of the finger was not removed, until by the right hand another portion was pressed down upon it in a similar manner. When all was returned, I passed a strong suture through the muscular parietes, closed the wound, and subsequently a rigorous antiphlogistic treatment was adopted. The woman not only perfectly recovered, but that which is more extraordinary, in five months she was safely delivered, having been four months advanced in pregnancy at the time she wounded herself.

"This is one instance among many which may serve to prove to you that a case, however desperate it may seem to you, should never be given up, and I need scarcely remark that nothing could be more reprehensible than the retreating tactics of the first operator. An operation once begun should always be concluded *secundum artem*—according to the circumstances of the case, however untoward may be the supervening results, or the accidents that may seem to render the operation unavailing. The surgeon will best consult the welfare of his patient, to say nothing of his own reputation, by seeing that the patient, even if death seem inevitable, die, at all events as regards the operation, surgically, if I may so express it. Sometimes he will find, in spite of all prognosis, the patient recovers. I have had a patient lie apparently dead under my own scalpel, and under that appalling circumstance I concluded the operation, and my doing so was the means of saving his life, when all around me had conceived it impossible, and he perfectly recovered.

"I cannot agree with some modern authors in their censure of sutures, and their recommendation, in the generality of cases, to dispense with them; even if the wound of the integuments and peritoneum be only an inch in extent, yet in nine cases out of ten a less suture will be required. It must be remembered that the patient is generally extremely restless; in the first instance most frequently convulsed with vomiting, the abdominal muscles in violent action or writhing with pain; and under these circumstances, how are folds of intestine just returned to be prevented from protruding, if not by a suture? No bandage or pressure can be endured, not even for a few minutes; how, then, is hernia to be prevented? By strips of sticking plaster? assuredly not. After again and again performing the same operation to the manifest injury of the patient—of handling and returning the gut, the surgeon will at last be obliged to resort to the only secure means, which he ought to have adopted at first, and passing a strong ligature through the integuments and part of the muscular parietes, close the wound and effectually confine the elastic contents of the abdomen."—*London Med. Gaz.*, Sept. 1839.

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53. *Penetrating Wounds of the Heart.*—M. Jobert (De Lamballe), in an interesting memoir in the *Archives Générales* for September last, gives an account of his researches relative to these injuries, principally directed to the discovery of a means of diagnosticating them.

The following are his conclusions:—

"1. That penetrating wounds of the heart give rise to a perceptible sound, similar to that heard in varicose aneurism.

"2. That they are accompanied with a *constant convulsive action* of the muscular fibres of the heart.

"3. That the sound just indicated ceases as soon as the wound is closed by a coagulum.

"4. That the convulsive action of the muscular fibres of the heart continue after the formation of the coagulum.

"5. That patients often die from a compression of the heart, and the formation of coagula in the interior of that organ.

"6. That the proper treatment consists, in the first place, of diminishing the mass of blood, even to syncope, with a view of lessening the action of the heart and favouring the formation of a coagulum."

There seems to us, we may remark, some discrepancy between his last two conclusions.

MIDWIFERY.

54. *Delivery of a Fœtus with the Secundines, the Membranes Unbroken.*—Dr. Victor Szokalski, in a communication in *La Lançette Française*, (March 28, 1839,) states that two days previously he had been called to a woman who had been suddenly delivered in the street. On the Doctor's arrival he found the mother seated in a chair. She was a robust woman, about 35 years of age. A glance sufficed to assure him there was no need of anxiety on her account and he directed his attention to *something* which a neighbour held enveloped in her apron; this was an infant, enclosed in its membranes, yet unbroken, motionless and exhibiting no signs of life. It had been born whilst the mother was walking, and had fallen on the pavement. Not being able to tear the membranes, they were so tough, with his fingers, he opened them promptly with a pair of scissors; when about six ounces of liquor amnii flowed out. The infant, a boy, seemed almost, at term, but feeble and emaciated. The umbilical cord was without pulsation; however, some beating of the heart was perceptible. Inspired with hope by this circumstance, Dr. S. cleared promptly the mouth of the infant, and applied frictions with flannel to the chest; he then washed every part of it with warm water, and in a few minutes had the pleasure to see the infant breathe. On the head of the infant, near the anterior margin of the frontal fontanelle, there was a small recent wound, which seemed to attest the fact of the child having fallen on its head, when ushered into the world.

The mother stated that this child was her tenth, and that she had always been delivered with extreme facility. This time she had advanced to the period of eight and a half months, and she attributed her premature delivery to a fall she had had a few days previously in the street. Labour pains had commenced the preceding morning, and as they increased towards evening, she went to the Hotel Dieu, but being refused admittance, she hastened towards the Clinical Hospital of the faculty, and on the way she dropt her burden.

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55. *New test for the detection of Pregnancy.*—Some years ago M. Nauche communicated to the Society of Practical Medicine of Paris, a memoir in which he endeavoured to show that the urine in pregnant women contains a peculiar substance, which separates by repose and forms a pellicle on its surface, and to which he gave the name of *kiesteine*, and that thus a valuable diagnostic sign may be derived by the obstetrical physician. But little importance has hitherto been attached to this alleged discovery of M. Nauche; and we are not aware of any accurate series of experiments which have been instituted with the view of determining the question, till M. Tanchou, of Paris, recently published his researches on the subject in the *Lançette Française*. (February 21, 1839.)

He examined the urine of twenty-five pregnant women, and in every case he detected the presence of *kiesteine*. The following is the description he gives of the changes which the urine during pregnancy exhibits, and of the characters by which its peculiar ingredient may be recognized.

The urine of a pregnant woman, collected in the morning, is usually of a pale yellow colour and slightly milky in appearance; it is not coagulable by heat, or by any of the tests which indicate the presence of albumen. Left to itself and exposed to the air after the first day, there begins to appear suspended in it a cottony-looking cloud, and, at the same time, a flocculent whitish matter is deposited at the bottom of the fluid. These phenomena are not of constant occurrence, and moreover healthy urine sometimes exhibits analogous phenomena.

From the second to the sixth day, we perceive small opaque bodies rise from the bottom to the top of the fluid; these gradually collect together so as to form a layer which covers the surface: this is the *kiesteine*. It is of a whitish or opaline colour, and may be very aptly compared to the layer of greasy matter which covers the surface of fat broth, when it has been allowed to cool. Examined by the microscope, it exhibits the appearance of a gelatinous mass, which has no determinate form. Sometimes small cubical crystals can be perceived in it, when it has become stale.

The *kiesteine* continues in the state we have now described, for three or four days; the urine then becomes muddy, and minute opaque bodies detach themselves from the surface and settle at the bottom of the vessel: the pellicle thus becomes soon destroyed.

The characteristic feature, therefore, of the urine during pregnancy consists in the presence of *kiesteine*. It deserves however to be noticed, that the urine, in some cases of extreme phthisis pulmonalis, and also of vesical catarrh, will be found to exhibit on its surface a layer or stratum which is not unlike to that now described as peculiar to the state of pregnancy. But with proper attention we may easily avoid this mistake. The stratum, in the cases alluded to, does not appear so quickly on the surface of the urine as the *kiesteine* does; and also, instead of disappearing, as it is found to do, in the course of a few days, it (the former) goes on increasing in thickness, and ultimately becomes converted into a mass of mouldiness.

Of twenty-five cases, in which M. Tanchou detected the presence of *kiesteine* in the urine, seventeen occurred in women who were pregnant from four to nine months, four in women who had not quickened, and who considered themselves as labouring under disease of the womb, and the remaining four in patients who had been under treatment for casual complaints—one for sciatica at the Hôtel Dieu, another for ascites in the city, a third for an ulcer in the neck at La Pitié, and the last had been cauterized twice a week for a pretended disease of the uterus. In none of these cases had the existence of pregnancy been suspected, although in every one of them the fact was soon placed beyond doubt.—*Med. Chirurg. Rev.*

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56. *Duration of Pregnancy.*—Dr. Forster, of New York, communicated to the Dublin Obstetrical Society, at their meeting of 7th February, 1839, a case in which the duration of pregnancy was ascertained with accuracy. The patient was the wife of a seaman. Her husband had arrived in Dublin on the 15th of March, 1838, and had left again on the 18th. She was taken in labour on the 26th December, so that the duration of pregnancy was 283 or 285 days. It was a first pregnancy, and the patient had not menstruated since the connection, which took place about a fortnight after the last appearance of the catamenia. There was no reason to suspect deception.

Dr. Nixon mentioned a case he met with about two years ago; it was that of a woman, who, on consulting him with respect to her health, named not only the day, but spoke with confidence of the hour at which her labour would occur. Struck by her apparent conviction that such would be the case, he was led to inquire the grounds of her reasons for thinking so, when she detailed the following particulars:

Her husband, who was a sailor, had been absent for some months; he returned to Dublin on a particular day, and passed that night at home. The following day, while he was assisting in the discharge of the cargo of his vessel, a quarrel ensued between himself and one of the quay porters, whom he struck and killed. The sailor was immediately arrested, thrown into prison, tried and transported. No further intercourse took place between him and his wife, hence she was induced to date the period of her confinement to be nine calendar months from the night of her husband's visit. Dr. Nixon, anxious to learn the result, made subsequent inquiries after the woman, and found that her predictions were very nearly verified, as she took her labour within six hours, and was actually delivered within twelve hours of the period she had foretold.—*Dublin Journal of Medical Science*, July, 1839.

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57. *Yellow Liquor Amnii.*—Dr. Purdon, in a paper read before the Dublin Obstetrical Society, mentioned a case, in which, on rupture of the membranes in a woman affected with jaundice, the liquor amnii exhibited a deep yellow colour.—*Dublin Journal, July*, 1839.

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58. *Extra Uterine Fœtation.*—A remarkable example of this is recorded by Dr. Spaeth, in the *Medicinisches Correspondenz-Blatt*, in which portions of the fœtus were discharged per anum for twenty years afterwards.—*Gaz. Méd. de Paris, March* 23, 1839.

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59. *Five Children at a Birth.*—In our number for February, 1838, page 459, an example of this was recorded; and another is said to have occurred at Naples. The mother, who had previously had twelve children at ten accouchements, was taken with labour pains, at the seventh month of utero-gestation, and brought forth successively, and by natural presentations, five living children, all of whom were baptized. The mother did not suffer any thing extraordinary. Four of these children were females, and one male. The male infant was delivered first, and, after a few minutes, one female; then, after a cessation of fifteen minutes' interval between each, the other three followed. The infants much resembled each other, and were of a regular form, and well grown, and very nearly of the ordinary size of a seven months' fœtus; each weighed about three and a half pounds, and measured in length a French foot. The insertion of the umbilical cord was about four lines lower down than ordinarily. The placentas with their membranes were four instead of five; and each had its proper umbilical cord, except the fourth, which contained two in one large sac. The fœtus, with their membranes, placenta, and umbilical cords, are preserved in the Royal Anatomical Museum of the University of Naples.—*B. & F. Med. Rev., Oct.* 1839, from *Bulletino delle Scienze Mediche*, Aug. and Sept. 1838.

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60. *Case of Spontaneous Evolution.* By Dr. Carganico.—The patient was a robust, healthy primipara, ætat. twenty-eight. The membranes had ruptured with the first pains, and an arm prolapsed. No assistance was requested for two days, when two midwives tried to turn, but did not succeed. The pains were violent, and the author was summoned. He found the patient suffering under incessant and painful uterine contractions, without a moment's cessation. The skin was hot, the pulse small and hard, the patient pale and exhausted. The arm (the left) was immensely swollen, livid and black, and the epidermis peeled off. The labia and vigina were much swollen and were beginning to be dry. The author made an attempt to turn, but could not succeed; he therefore bled her, and used narcotics both inwardly and outwardly, by which means the pains in the loins and abdomen abated; she became quiet and fell into a sound sleep which lasted from five to six hours, during which she perspired freely. Slight contractions of the uterus, and almost without pain, now came on; and by their action, the arm and shoulder were detruded still further, while at the same time the left side of the thorax began to press downwards from the sacrum towards the left arm: the hip followed the side of the trunk, and, as the child

turned completely round, the nates followed, and together with the trunk and legs were now expelled. The head with the arm stretched along it followed without any difficulty, as also did the placenta. The whole process lasted only a few minutes, and the patient assured the author that she had scarcely felt any thing of the pain. The child, which was dead, was full grown: it was emphysematous, the epidermis peeling off, and the limbs quite flaccid. It was to this state of perfect flaccidity, the result of incipient decomposition, that the patient was indebted for the perfect ease with which the whole was accomplished.—*B. & F. Med. Rev.* Oct. 1839, from *Med. Zeit. Nos.* 29-34, 1838.

61. *On the use of the Plug in Placental Presentations.*—Dr. Evony Kennedy mentioned at a recent meeting of the Dublin Obstetrical Society, that he had derived much benefit from the use of the plug in restraining the hæmorrhage during the time we are obliged to await the dilatation of the os tincæ, in those cases in which the edge of the placenta is found to overlap it. He explained the dependence of the hæmorrhage, in these cases, upon the separation of the placenta from the neck of the uterus, and the consequent exposure of the vessel at this stage of the labour, and observed that in order to correct this state, he had been in the habit of carefully introducing a piece of sponge *between the head of the child and the placenta*, thus pressing the latter against the neck of the uterus and closing the mouths of the vessels. This he has allowed to remain, and act as it were the part of a compress, until the head descended into the pelvis, the head, in its progress, adding to the compression, and more completely restraining the discharge of blood. He stated that he had by this means, in several cases, completely restrained the hæmorrhage, and the patients had been delivered of living children without the necessity of turning or other interference. He cautioned the society, in case of their having recourse to this method, of the care necessary to take in getting up the sponge, and bringing it against the amnial surface of the placenta, as, if pressed up between the uterus and placenta, it must separate them still further, and consequently increase the hæmorrhage. Dr. Kennedy further observed, that it was not his wish, in mentioning this plan of practice, to lessen the confidence justly placed in turning in placenta presentations, and stated the necessity which exists, after using the plug, for watching the patient closely, and if the circumstances of mother or child require it, having recourse to turning, or the application of the forceps. He then mentioned two cases which had occurred under his observation, in which the placenta separated from the uterus, and descended before the head of the child. In the one there was a total absence from hæmorrhage, in the other a comparatively trifling loss.—*Dublin Journal*, Sept. 1839.

62. *Cæsarian Operation.*—M. Hoebeke, surgeon at Sottegem in Eastern Flanders, has performed this frightful operation not fewer than *fifteen* times. An account of eight of these will be found in the February number of the *Bulletin Medical Belge* for 1838. The particulars of the present case are these. A woman, 39 years of age, and mother of three children, had for several years been afflicted with rheumatic pains, which had entirely crippled her and rendered her bed-ridden. After trying a variety of remedies, she took for some time whale oil—to the use of which M. Hoebeke attributes the softening and consequent deformity of the bones. When he saw the woman first, she was in the *sixth* month of pregnancy. On examination he found that the *rami* of the pubis and ischium almost touched each other, and that the interval between the tuberosities of the ossa ischii and the coccyx was so abridged that not more than one finger could be passed.

The correctness of these facts is confirmed by the testimony of Professors Verbeck and Lutens; and these gentlemen concurred in the necessity of performing the Cæsarian operation when labour came on. This took place about three months afterwards, and seems to have been performed under every disadvantage, in a miserable hovel, without any accommodation, and with insufficient assistance. When

the uterine parietes had been divided, M. H. found that he was upon the placenta; he detached it somewhat, and by pushing it aside, he felt the bag of the membranes.

On rupturing these, the uterus contracted and pushed out one of the shoulders of the infant; but the operator quickly got hold of the feet and extracted it without difficulty. Another contraction of the uterus now took place, and expelled into the wound two placentas and the feet of another child! Considerable difficulty was experienced in extracting it, in consequence of the head being detained in the inlet of the pelvis: both children were alive. Having removed as many of the clots from the uterus as he could, and of the blood which had been extravasated into the abdomen, the operator proceeded to unite the wound by a few stitches and strips of adhesive plaster. A small portion of lint was introduced between the lips of the wound at its lower extremity. The operation was performed at about two o'clock in the morning. The subsequent recovery of the patient seems to have been wonderfully fortunate. On the second day after the operation, the infants were applied to the breasts, as the milk had begun to flow freely! During the first week there was a copious discharge of a rather offensive serosity from the wound: the process of cicatrisation went on however so favourably, that, by the end of another fortnight, the patient was pronounced cured.—*Medico-Chirurgical Review*, October, 1839.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

63. *On Poisoning with Arsenic;* ORFILA'S *Late Discoveries.*—The subject of poisoning by arsenic, which is so important both in forensic and practical medicine, has just been re-examined and thoroughly solved—at least in its medico-legal relations—in some memoirs communicated to the Royal Academy of Medicine.

For this we are indebted to M. Orfila. No one doubts the immense importance of the medico-legal applications of these new researches; but the same cannot be said of their therapeutic value, for this has been contested.

As we are disinterested witnesses of the discussion, and have conscientiously studied all the details of the question, we shall examine it successively under its two aspects. We must observe, however, that in these new inquiries of M. Orfila, the therapeutic question is subordinate to the medico-legal one. We shall, therefore, touch but slightly on the first; but we shall go at length into the method by which arsenic is detected *to a certainty*, in the bodies of those poisoned by it, and which, by the extension of which it is capable, will effect a fortunate revolution in toxicology, by ensuring the discovery of the greater number of poisons in the bodies of their victims; and this at every period of their crime, however advanced decomposition may have been, and in whatever manner the poison may have entered the living organs. Such, by anticipation, is the general enunciation of the results of these inquiries.

Hitherto, medico-legal examination in cases of poisoning has consisted chiefly in analyzing the matters found in the stomach and intestines after death. Investigation was not pushed any farther.

But it often happens, however little the judicial inquiry may have been delayed, particularly when the dose of the poison has not been very large, that the most careful analysis does not detect the slightest trace of any poisonous substance, although poisoning has really taken place. This is particularly the case with arsenic, the special object of the late investigations, and must be so also with a great number of other poisons.

The cause of the failure is obvious enough; the poison has been removed by absorption from the alimentary canal. Whether the arsenic is swallowed, or applied to any other part of the system, the explanation is the same; unless the dose is very large, it disappears sooner or later, being carried by the absorbents into the depths of the system. This being granted, it is plain that if we confine

ourselves to testing for arsenic according to the established methods, a skilful poisoner may escape the just punishment of his crime; for the jury is rarely satisfied except by the absolute detection of the arsenic.

Now, M. Orfila's method pursues the poison through every tissue of the frame, and detects it in the liver, the lungs, the brain, nay, in the last wrecks of organic matter. Here follows a proof; we select it from many others, first, because it is decisive, and also because it has been the starting point from which all the details of the question have proceeded.

On the 22d of December, 1838, a man died with all the symptoms of poisoning; but these are no more than probable evidence, as many natural diseases may be attended by the same symptoms. The body, therefore, was buried. A fortnight afterwards the public loudly demanded that the circumstances attending this death should be judicially investigated. The body was disinterred, and, on examining the digestive organs, those anatomical lesions were discovered which usually follow poisoning by arsenic. It remained to be seen if chemical analysis would confirm the triple testimony borne by the symptoms of the disease, the organic lesions, and public opinion. Skilful experimenters tested and tested again, according to all the rules of science, but in vain; not an atom of arsenic was detected, and the corpse was again buried.

Meantime, the moral proofs of poisoning became stronger every day. M. Orfila was officially consulted, and, by his advice, the body was again disinterred, in April, about four months after it had been originally buried. The remains of the corpse were sent to Paris to be again examined. It is easy to imagine the state of the internal organs in a subject which had rapidly sunk under its symptoms, even if it did not perish by a violent death; which had been buried and disinterred twice in the space of four months; which had undergone all the minute trials of a judicial inquiry, as well at the hands of the chemists as of the physicians, and which, in conclusion, was exposed to the continual joltings of a post-chaise during a journey of eighty leagues. In fact, the stomach and intestines no longer bore any trace of organic structure, and all the other parts were more or less disfigured. It was to this mass of flesh, almost shapeless, and half decomposed, that M. Orfila had to apply his new method. This memorable experiment was performed in the presence of MM. Devergie and Lesueur, and with their assistance. The result did not disappoint the celebrated forensic physician; he demonstrated the presence of arsenic in the liver and in the limbs of the victim; and it was even detected in the cask which had been used to preserve the remains. Let us now mention in what this method consists, how it is practised, and on what its success depends.

Arsenious acid, when introduced into the stomach, or inclosed in the subcutaneous cellular tissues, is absorbed, and mixing with the blood, enters every organ. When it is finely powdered, and placed on the subcutaneous cellular tissue, only one or two grains are absorbed, whatever may be the quantity used; and this small quantity is sufficient to kill dogs of different sizes. More of it is absorbed when it is introduced into the digestive cavity.

The cases of poisoning which have hitherto occurred in man show that arsenic acts in the same manner that experiment shows it does upon dogs, except that a greater quantity is required to produce death in man. The mode of action of arsenic being thus determined, in reference to the parts to which it is applied, to the passages through which it makes its way, and the quantity which is required for poisoning, M. Orfila meets the question of the extraction of the poisonous substance, in his ordinary way, by experiments and facts. He first shows that it is possible to obtain metallic arsenic from the portion which has been absorbed; and next, that it is indispensable to have recourse to this extraction when the poison has not been found in the alimentary canal, nor in the matters vomited, nor in the other parts to which it may have been applied; for if we confine ourselves, as has been done hitherto, to looking for arsenic in the matters coming from the stomach and intestines, we run the risk of finding none, either because none remains in the digestive tube, or because the matters vomited have been removed; while the metal may always be obtained from the portion

of the arsenious acid which has been absorbed, as facts and experiments continue to show. This poison, adds M. Orfila, may be detected by properly treating a certain number of muscles, or a single viscus, previously dried, particularly if the viscus is very vascular; but it is better to act upon the whole corpse, or at least on half of it, as the quantity of arsenious acid which has been fatal is too small for us to hope to detect it beyond the reach of doubt, if we treat only a single viscus, or an inconsiderable portion of the muscles and bones.

Moreover, arsenious acid can be detected in the blood obtained by bleeding the patient, provided there are several ounces to examine. In this point of view, at any rate, bleeding would be highly useful, by facilitating the inquiries of justice. We shall afterwards say what we think of its utility as a therapeutic agent.

We have just seen, on the one hand, how arsenious acid may be introduced into the system, and on the other, what becomes of it and by what line of proceeding it is to be detected; it remains only to show the method of extracting it. M. Orfila proves by the accumulated results of cases and experiments, that the best method of obtaining the metal consists in boiling the whole body in distilled water for six hours, in precipitating the impregnated fluid with sulphuric acid, then removing the arsenic from the sulphur which is deposited, mixing the decanted and filtered liquid with solid azotate of potass, (nitre,) evaporating the mixture to dryness, and then incinerating the product: this is first to be treated with water, and afterwards with concentrated sulphuric acid, and then to be put into Marsh's apparatus, not in its usual form—for this is inadequate to the purpose—but as modified by M. Orfila. It would be disadvantageous to omit throwing down the precipitate with sulphuric acid, and to mix the liquid at first with the nitrate of potash, because whatever we do, we always lose a portion of the arsenious acid while burning the collected matter with the nitre. The loss will be evidently much smaller if we begin by removing from the fluid all that sulphuric acid can precipitate, and only treat with nitre the liquid which covers the precipitate.

It is proper to add that we lose but little arsenic if we burn the organic matter after having diligently mixed it with the dissolved nitre; while much less is obtained if the mixture of the animal matter and the nitre has been made in a mortar. The loss is still more sensible, if incineration has been performed after Rapp's method.

The body is to be cut into pieces, and may be conveniently boiled in large cast-iron cauldrons, or in copper ones, if the verdigris is carefully removed; and a very clean iron pan, or a Hessian crucible, may be used for the decomposition of the animal matter by the nitre.

In places where, for want of utensils, the examiners do not undertake all these investigations, it will always be possible, and, indeed, is indispensable, to boil the body in a large cast-iron or copper cauldron, for six hours, with distilled water and ten or twelve grains of solid potash prepared by alcohol; and then evaporate the fluid to dryness, after having passed it through fine linen, while still luke-warm. The solid product may afterwards be conveniently submitted to the necessary tests. Lastly, the presence of arsenious acid in a human body with which it has not been placed in contact, provided its existence has been demonstrated by boiling the corpse cut into pieces, in distilled water, for six hours, without the addition of an acid, incontestibly proves that the poison has been taken during life; for numerous experiments have shown that the bodies of those who have not been poisoned with arsenic, when treated in the same manner, furnish no trace of it.

The chief object of the investigations which we have just analysed is to detect the presence of arsenic, either during the illness of the patient, or after his death; and we are compelled to conclude that M. Orfila's new method of investigation, joined to his improvements of the old ones, makes it impossible henceforth to miss the tangible proof of arsenical poisoning; so that those who have committed such a crime can never again escape the vengeance of the law.

But there is another duty, of which the medical jurist must not lose sight; it

consists in preventing the judges from committing an irreparable error by showing beyond all doubt, that the poisonous substance discovered in the living or dead body has been really introduced by a criminal hand, and that it can neither have been naturally produced in the human frame, nor artificially developed by the action or reaction of the numerous agents employed in testing.

M. Orfila has not overlooked the importance of this task. He first inquired whether the human body contained arsenic among its chemical principles; under what form it appeared; and whether it was possible to distinguish it from arsenic introduced from without. These points having been cleared up, he examined the conditions of the purity of the tests used, and fixed rules by which we may be assured that the arsenic obtained is neither derived from the reagent, nor the vessel, nor from the earth where the corpse may have been long deposited.

M. Orfila has ascertained the existence of an arsenical compound in the human body. This compound, which he believes to be arseniate of lime, is found in a small proportion in the bones, and perhaps in other tissues. This important fact might make one fear that the occurrence of a natural salt of arsenic would affect the results of our analysis, and thus condemn us to a lamentable state of doubt as to the perpetration of the crime. It is fortunate, however, that the experiments of our great medical jurist have cleared up this fearful dilemma; for they have proved that the natural arsenical compound is not soluble in boiling distilled water kept neutral; while, on the contrary, poison introduced into the system is dissolved and consequently disengaged by this menstruum. The reagents employed in these inquiries are the sulphuric and azotic (nitric) acids, potash prepared by alcohol, azotate of potash, (nitre,) water, iron, and zinc. M. Orfila shows that the sulphuric acid of commerce sometimes contains arsenic in the state of arsenious and of arsenical acid, which might lead to error; but he also teaches the means of purifying it. The same may be said of nitric acid, if it has not been distilled over nitrate of silver. The potash used in these examinations never contains any; the iron and zinc may contain some, but it is easy to test them beforehand, and free them from it.

The instruments used in these investigations are cast-iron boilers, porcelain capsules, Hessian crucibles, flasks, and test tubes. The boilers will never yield any arsenic to the fluid that they contain, provided it is kept neutral by the addition of potash prepared with alcohol. The porcelain capsules, the flasks, and the tubes never yield arsenic; but it is necessary to rinse them with an alkaline solution when they have contained arsenical substances.

Lastly, some earths contain arsenic, and may thus make medico-legal examinations more complicated. However it is easy to test them, and to distinguish the particles of arsenic which they afford from those furnished by the body.

To sum up: the important inquiries of which we have given a short abstract, authorize us to conclude that poisoning by arsenious acid will in future be recognized under all circumstances; and that it will be ascertained without the chance of being confounded either with the presence of arsenical salts naturally existing in the human body, or with the accidental occurrence of arsenical compounds in the tests or instruments used, or in the soil where the body has been buried. In other words, in the memoirs that we have just analyzed, poisoning by arsenious acid is examined under every aspect, and illustrated by such an apparatus of cases and experiments that the irresistible authority of the best demonstrated truths is stamped on the method of which a particular application is described.

To complete this analysis we will add a few words on the employment of venesection in the treatment of poisoning by arsenic. In the first place, is bleeding indicated? It is not long since antiphlogistics were thought to be universally indicated; while, at present, another extreme prevails, and they are rejected almost every where. This is so much the case, that after having formerly combated the absurdity of treating every disease by this method alone, we have now frequently to contend in favour of these powerful agents. Arsenical poisoning is a striking instance in point, yet discrimination is necessary in this as in every other case. If it is meant that in this kind of poisoning bleeding is indicated

in every patient, in all circumstances, and in all the phases of its course, the answer is obvious; but no one, we believe, goes so far as this. On the other hand, if any one denies that bleeding is a means of lessening the consequences of this poison, and asserts that it necessarily hastens the catastrophe, and that we ought instead to use stimulants at every stage of the case, he commits a palpable error, which is every moment refuted by facts.

The length to which this article has extended does not allow us to enter into the details of the treatment, which too often is useless.

Before we discuss the different points of this important question, we shall wait till the new experiments projected by the committee of the Academy have thrown some light on the difficulties by which it is still surrounded.—*Gazette Médicale de Paris*, 17 Aug. 1839.

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64. *On the effects which result from the introduction of Pins into the Digestive Organs.* By. M. Ollivier d'Angers.—Rose Melanie Selter was tried at the Court of Assizes for the attempted homicide of a child two months and a half old, by forcing it to swallow pins. After the pins had been swallowed, the child was seized with fits of suffocation so severe as to cause serious alarm for its life. This was on the 7th of April; and for several successive days it manifested considerable uneasiness, and appeared to have some obstacle in its throat, which prevented it swallowing freely. However, on the 10th April, the pains ceased, and the infant began to recover its health. The cause of its sufferings was not known at this time; but on the morning of the 11th April three pins were passed by stool; and on the evening of the same day four others; and next morning two more, making in all nine pins. After this the child recovered its health, and did not appear to have been injured by the pins passing through it.

M. Ollivier was led, from being consulted in this case, to examine into the published cases where needles or pins had been swallowed, with the view of ascertaining the amount of danger likely to result from the introduction of such bodies into the digestive organs. We shall notice shortly the result of his inquiries.

Numerous cases are on record where needles and pins have been swallowed, from which it appears that, in many instances, they cause no appreciable inconvenience or injury, but, in other instances, give rise to symptoms more or less alarming—depending on whether the pin has penetrated the coats of the pharynx or œsophagus, or transfixed the cartilages of the larynx or trachea, or the coats of the stomach. A pin may remain fixed in the coats of the stomach without its presence causing much uneasiness. M. Ollivier saw a pin bent on itself, traversing a fold of the mucous membrane of the stomach, in the body of a patient who had fallen a victim to the operation of lithotomy. In this case there was only slight thickening, with induration of the coats where they were pierced by the pin. Another case is related where a brass pin, about fifteen or sixteen lines in length, merely caused slight uneasiness in the part supposed to be occupied by that body, so long as it remained in the intestines; but all unpleasant symptoms disappeared when the pin was expelled.

In certain cases the needles and pins which have been swallowed make their appearance under the skin, in different regions of the body, giving rise to the formation of small abscesses, on opening which the pins or needles may be extracted. Cases of this kind are on record, where hundreds of pins have been swallowed, and yet have not caused death, the patients having died of other diseases. Dr. Silvy, (Mem. de la Soc. Med. d'Emulation, Vol. v. p. 181,) in a maniacal case which he attended, made out the existence of 1400 pins in various parts of the muscles of the body and limbs, many of which he extracted during life. This person died of *phthisis pulmonalis*. A very singular circumstance was, that none were found in the lungs. A case is also mentioned, which occurred under the care of Dr. Villars, (Dict. des Sciences Medicales, Tom. vii. p. 66,) where more than 800 needles and pins were extracted from the various parts of the body. The patient was a young girl, who for twelve days was in a state of delirium, during which time she had swallowed these needles and

pins. They appeared over the whole surface of the trunk and of the limbs, and were successively extracted. She recovered.

These bodies are not, however, always thus harmless when introduced into the body; for cases are recorded where serious diseases, and even death, have been produced by them. Arnaud and Saviard (Journal de Savans, Nov. 1791,) found large pins in the testicle; they had found their way into this organ, and caused in it the development of carcinomatous degeneration. Schenck, (Obs. Med. Chir. lib. 3, Obs. 10,) relates a case where a needle which was swallowed pierced the coats of the stomach and the liver, and caused death. Bayle (Nouvelles de la Republique des Lettres, Jan. 1795, Art. 5,) relates the case of a man who complained, for a long period of an acute pain in the hypogastric region, where a collection of purulent matter formed. On the abscess being opened, a very large quantity of fetid purulent matter escaped, and the discharge continued for months. At last the patient died, worn out by the excessive discharge; and it was found, on dissection, that the abscess extended to the ureter; the coats of this tube were ulcerated, and a pin was found transfixing the thickness of all the coats. Dupuytren, (Traité des Blessures par armes de guerre, Tom. i. p. 82,) gives the case of a maniacal woman, who fell a victim to the numerous abscesses which formed over the surface of all the body, and in all of which needles or pins which she had swallowed, were found. M. Guersant has also related to the author a case, where a fatal result followed the swallowing of a needle. A child was seized with vomiting, which continued obstinately for several weeks, and, from the symptoms which accompanied it, it was feared that softening of the stomach had taken place. The child died after two months of constant suffering; and, on dissection, a needle was found at a little distance from the pylorus, traversing the coats of the stomach, and fixed pretty deeply in the substance of the liver. No inflammation existed round this foreign body, which had evidently been the cause of the sufferings and death of the child.

M. Ollivier in conclusion remarks, that these last cases are very rare, yet they are sufficient to prove that death sometimes results from the introduction of these bodies into the digestive organs, though such a result is to be looked on as the exception, not the general rule.—*Edinburgh Med. and Surg. Jour.* from *Annales d'Hygiene Publique*, Jan. 1839.

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65. *On some New Signs of Suspension having taken place during Life.*—In a memoir presented to the Academy of Medicine, M. Devergie notices two circumstances which, in cases of hanging, will prove whether suspension has taken place during life or not. The facts of an ejaculation of sperm in the last moments of life, in cases of hanging, and of the existence of spermatic animalcules in urine, when an emission of urine has immediately followed an ejaculation, are well known, and have led M. Devergie to search for these animalcules in the urethra of persons who have been found hanging. If in such cases the urethra be slit open, or, better still, if its contents be pressed out into a watch-glass, we find a mucous matter, more or less thick, exhaling a strong odour of semen, and containing here and there the peculiar animalcules which are found in the human spermatic fluid alone. But the place of these is occasionally supplied by a number of small rounded bodies resembling the animalcules without a tail; these M. Devergie conjectures may be spermatic animalcules in an imperfect or rudimentary state. However that may be, the presence of semen in the canal of the urethra is a certain sign that suspension took place during life. The second circumstance is that the end of the penis is so reddened and moistened by a mixture of semen and mucus, as to give the idea of a gonorrhœa having existed; whilst the *corpus cavernosum* and *spongiosum* are so filled with thick black blood as to form a striking contrast to the paleness of the same parts in cases of natural death. This sign is of as much value as the existence of sperm in the urethra, and is observed with greater facility.—*British and Foreign Medical Review*, from *Bulletin de l'Académie*, November 20, 1838.

MEDICAL STATISTICS.

66. *Vital Statistics of Paris.*—The total number of births in Paris, during the year 1837, was 29,192; or, 14,651 boys and 14,541 girls. Of the number born, no less than 9,578, or nearly one-third, were born out of wedlock. The number of deaths amounted to 28,834. There died—at home, 17,127 persons; in hospital, 10,604; in prison, 99; while 304 bodies were deposited at the Morgue.

Hence of every *five* persons who die in Paris, only *three* have the satisfaction of dying in bed.

The number of deaths from small-pox, out of a population of 774,338, amounted to 458; in the year 1836, it was only 227.

The proportion of males to females born is as 17 to 16; but of children born out of wedlock, the proportion is as 24 to 23.

As there is one birth for every 32.7 inhabitants, if we suppose the population to remain nearly stationary, the mean duration of life is expressed by 32.7 years. Before the revolution, it was only 28.75 —*Lancet, Oct.* 5, 1839, from *La Lancette Française, Sept.* 10, 1839.

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67. *Prison Mortality in France.*—From 1815 to 1818, the general mortality of the prisons in Paris was one death for every 12.01 prisoners, from 1819 to 1825, the mortality was reduced to one in 15.30. In the other prisons of the kingdom the general mortality was one in 20.9.

In the places where galley slaves are confined, the mortality from 1816 to 1827, was as follows:

Rochefort, - - - - - - - - - - - -	1 in 11.51.
Toulon, - - - - - - - - - - - -	1 in 20.55.
Brest, - - - - - - - - - - - -	1 in 26.06.

Ibid. Sept. 21, 1839.

MISCELLANEOUS.

68. *Means of rendering Respirable an Atmosphere containing a portion of Carbonic Acid.*—Professor GRAHAM communicated to the chemical section of the British Association, at their late meeting, an extremely important practical suggestion, one which may tend to the preservation of many lives.

He observed that the *after damp*, or carbonic acid, left in the atmosphere of a mine, after explosion, is supposed to occasion, in many instances, a greater loss of life than the explosion; at the same time it renders assistance impracticable. In many cases the oxygen of the air is not exhausted by the explosion, although, from the presence of five or ten per cent. of carbonic acid it is rendered irrespirable. The atmosphere will be rendered respirable by withdrawing the carbonic acid, and he suggested a method by which this might be effected. He found that a *mixture of slacked lime and powdered glauber's salts, in equal proportions*, has a singular avidity for carbonic acid, and that air might be purified completely from that deleterious gas, and thus rendered respirable by *inhaling it through a cushion of not more than an inch in thickness, filled with that mixture*, which could be done without difficulty. This lime-filter should be used in all cases where persons are obliged to descend into mines, vaults, wells, &c., the atmosphere of which is noxious to life from the presence of carbonic acid.

AMERICAN INTELLIGENCE.

Case in which a thimble was impacted in the right posterior naris. By Paul F. Eve, M. D., Professor of Surgery in the Medical College of Georgia.—A little girl, ætat. about six years, was brought from a neighbouring state by her father, Mr. S., who stated that she had had a thimble up her nose for the past two weeks. In playing with her mother's thimble, she had put it into her mouth, and was observed suddenly to be threatened with suffocation. Her father being present, thrust in his finger, and in the agitation of the moment, the efforts to extract it pushed it into the posterior part of the right nostril. As it was not removed by the attempts which were immediately made, she was brought to our city for professional assistance.

By the introduction of Bellocque's instrument, the foreign body was readily felt in the right nostril. As this passed the thimble and appeared along side the uvula, I next tried to dislodge it with a large sized flexible metallic bougie. When touched by these instruments, a few drops of mucopurulent matter flowed out of the nose. Finding it impossible to succeed by these means, I abandoned them, and resorted to the finger in the posterior naris.

My patient was very ungovernable, but her mouth was forced open, and maintained so by a cork between the molar teeth. As the thimble was on the right side, I succeeded with the left index finger, although I found it so closely impacted into the naris, that the nail of the finger was split in the efforts at extraction. It may have been that the instruments which were introduced through the anterior nostril passed through the thimble, as it is what is called the tailor's, having an open base.

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Report of the Obstetric Department of the Philadelphia Dispensary, for the year 1839. By Joseph Warrington, M. D., Accoucheur.—Seventy-seven women have been under the care of the accoucheur in this institution during the year.

Seventy-nine children have been delivered, viz. fifty-three boys and twenty-six girls; one woman having twin boys, and one twin girls.

In forty-seven cases in which the presentations and positions of the fœtuses were carefully observed, they were as follows:—28 in first position of vertex; 11 in second do.; 4 in fourth do.; 3 in first position of breach; 1 in fourth position of knees.

The average duration of labour, in 45 cases, was 11 hours 26 minutes, the extremes being 30 minutes and 31 hours.

The average time required for the spontaneous expulsion of the placenta, in 51 cases, was 19 minutes, the extremes being 5 and 60 minutes. In six other cases some manual aid was necessary to the delivery of this mass, after a retention for 30, 60, 90, 90, 120, and 240 minutes respectively. In each of these cases the delay of its delivery depended upon either atony

of the uterus, or the manner in which the placenta presented at its orifice, and *not to adhesions or hour-glass contraction.*

The insinuation of the finger in four of the cases, and of the hand into the vagina and os uteri in two, was found sufficient for the completion of delivery.

In one case the fœtus presented originally in the fourth, but became spontaneously changed to the second position of the vertex.

In one case flexion of the head upon the thorax did not take place until the hand was introduced to assist the change.

The forceps were applied in four cases, viz., in one which one year and fifteen days previously had been delivered by the crochet, in consequence of deficient amplitude of the pelvis (child now delivered alive); one in consequence of contraction of the antero-posterior diameter, with the additional obstacle of the jutting in of the left acetabulum (child living), case given in detail by William H. Muller (one of the obstetric class); in one in consequence of an irreducible prolapsus of the cord (child not quite dead when delivered, but could not be resuscitated); and in a fourth case, in consequence of the defect of uterine action and a small but well-formed pelvis, ergot having failed to effect delivery (child living). Ergot was used in this one case only, during the whole year. All the women recovered except one, who died of phthisis, eight days after delivery, which occurred three weeks before term, the patient not being expected to live till that time. Delivery was effected by the uterine efforts merely, and almost unconsciously to the emaciated and enfeebled mother.

Two patients had metritis coming on after natural and easy labours, and one (the case of which will be given with some detail) after considerable manipulations and use of the forceps. These were cured in a few days by blood-letting, general and local, moderate purging, fomentations to the abdomen, and mucilaginous injections into the vagina.

There was one case of severe uterine and mammary engorgement, occurring on the third day after a natural labour. It was promptly cured by two doses of calomel and castor oil, with the frequent use of fomentations to the mammæ and abdomen.

One patient suffered much from ovaritis during the latter part of gestation. She was greatly relieved by cupping before delivery and a free leeching subsequently.

In one case, in which there was slight hemorrhage at the time of delivery, the placenta was found to be studded with numerous calcareous deposites upon its uterine surface. Several other placentæ were remarked to contain this species of formation, but no peculiar condition of the patient or child was noticed in connection with the circumstance.

Four or five of the children had ophthalmia; all of them recovered except one, which died in convulsions eight days after its birth; the inflammation was intense, and no nurse could be obtained to attend upon the mother or apply the remedies proposed for the relief of the child.

Dr. Warrington holds the appointment of accoucheur to this ancient and extensive institution, with a view to establish a school of practical midwifery. The cases are distributed among those members of his class who attend upon his course of practical instructions in obstetrics, after having attended a full course of anatomy and midwifery in some respectable medical school.

Twenty-five gentlemen have participated in his courses of instruction

at the Dispensary, and attended upon the above list of cases during the past year.

The number of patients for 1839 exceeded that for the previous year by twenty-four.

Raw Cotton a Cure for Chafes.—Dr. A. Robertson, of Gainesville, Alabama, writes to us that he has found raw cotton a prompt and effectual cure for chafes. Practitioners, he states, in a southern climate, who visit their patients on horseback, are peculiarly liable, especially in sultry weather, to being badly chafed. Having suffered much from it himself, being sometimes disqualified for a day or two at a time for riding, he was induced to try the raw cotton, and has always found that when it was applied to the skin at night on going to bed, it afforded entire relief by next morning.

National Medical Convention.—The National Medical Convention for the revision of the Pharmacopœia of the United States, assembled in the City Hall, Washington, on the 1st of January, 1840.

The following delegates represented their respective Medical Societies and Colleges in the Convention, viz:

Theophilus C. Dunn, M. D., Rhode Island Medical Society.

Lewis Condict, M. D., New Jersey Medical Society.

Franklin Bache, M. D., Henry Bond, M. D., Joseph Carson, M. D., College of Physicians of Philadelphia.

George B. Wood, M. D., University of Pennsylvania.

Robley Dunglison, M. D., Jefferson Medical College, Philadelphia.

William W. Morris, M. D., James Couper, M. D., Delaware Medical Society.

John R. W. Dunbar, M. D., John C. S. Monken, M. D., Edward Foreman, M. D., Washington University, Baltimore.

Joshua J. Cohen, M. D., Medical and Chirurgical Faculty of Maryland.

Thomas Sewell, M. D., N. W. Worthington, M. D., Medical Society of the District of Columbia.

Thomas Miller, M. D, Harvey Lindsly, M. D., John M. Thomas, M. D., Columbian Medical College.

John W. Davis, M. D., Vincennes Medical Society of Indiana.

William Bacon Stevens, M. D., Georgia Medical Society.

The credentials of the delegations from the White Mountains Medical Society of Vermont, from the Medical Society of New Hampshire, from the Albany Medical College, and from the College of Physicians and Surgeons of Lexington, Kentucky, were presented by Dr. Condict, the President of the Convention of 1830, but the delegates were prevented from attending. After the rising of the Convention, however, Josiah Bartlett, M. D., delegate from the New Hamshire Medical Society, and Samuel G. Baker, M. D., and William A. Aikin, M. D., delegates from the University of Maryland, reached Washington, and by public notice in the papers stated their full concurrence in the measures adopted by the Convention.

The Convention elected Lewis Condict, M. D., of New Jersey, President, George B. Wood, M. D., of Philadelphia, Vice President, N. W. Worthington, M. D., of Georgetown, District of Columbia, Secretary, and Harvey Lindsly, M. D., of Washington, Assistant Secretary.

With the view of giving the various medical interests of the country their due weight in the deliberations of the Convention, the Surgeon General of the Army, and the Senior Naval Surgeon, at Washington, were invited to participate in the proceedings.

After some other preliminary business, the Convention adopted the following resolution, offered by Dr. Bache:

Resolved—That the delegates from the different medical bodies represented in this convention, be requested to present any written communications with which they may have been charged.

Upon calling over the several delegations, it appeared that no written communications had been forwarded to the Convention, except by the College of Physicians of Philadelphia. Dr. Bache presented from this College several documents, which, he stated, had been prepared with great industry and care, with a view to facilitate the revision and emendation of the Pharmacopœia of of 1830. This communication elicited discussion; but with a view to more definite action, Dr. Lindsly proposed the following resolution, which was adopted:

Resolved—That the communication from the College of Physicians of Philadelphia be referred to a committee who shall, also, be instructed to report a plan by which the revision and publication of the Pharmacopœia may be carried into effect.

It was ordered that the committee consist of five members to be named by the President, and Drs. Bache, Davis, Stevens, Cohen and Dunn, were accordingly appointed.

Dr. Wood offered the following proposition, which was adopted:

Resolved—That a committee be appointed to report a plan for the organization of the next Convention for revising the Pharmacopœia.

It was ordered, that the committee consist of three members to be named by the President, and Drs. Wood, Sewall and Dunglison were appointed.

The committee to whom the documents from the College of Physicians of Philadelphia were referred, and whose duty it was to arrange a plan by which the revision and publication of the Pharmacopœia might be carried into effect, made the following report, which, with the accompanying resolutions, was adopted by the convention:

"The Committee are of opinion, that the labours of revision constituting the communication from the College of Physicians would form a proper basis for the new Pharmacopœia; and that this communication, and all others that shall be received from bodies which have appointed delegates to this convention, should be referred to a committee of revision and publication, to meet in Philadelphia as soon as practicable. As it is desirable, that the committee here proposed should have the assistance of pharmaceutical bodies, it is recommended that authority be given to it to request the co-operation of Colleges of Pharmacy in the United States. A revising committee thus constituted, and clothed with power to fill their own vacancies, to publish the work after the completion of the revision, and to take order on all incidental measures necessary to carry out the object of the Convention, would, in the opinion of this committee, form a body to which the revision and publication of the Pharmacopœia might be safely trusted. To carry out these views the committee would recommend the adoption of the following resolutions by the Convention:

"1. The communication from the College of Physicians of Philadelphia, and all other communications which may be received from bodies that have appointed delegates to this Convention, shall be referred to a committee of revision and publication consisting of seven members, three of whom shall form a quorum.

"2. The committee, thus constituted, shall meet in Philadelphia, and be convened, as soon as practicable, by its chairman.

"3. The committee shall be authorised to request the co-operation of the Colleges of Pharmacy in the United States; to publish the work after the completion of the revision, and to take all other measures which they may deem necessary to carry into effect the object of the Convention.

"4. The committee shall have power to fill its own vacancies.

"5. When the committee shall have terminated their labours, they shall prepare a report of their proceedings and transmit it to the Secretary of this Convention, to be laid before the next Convention. All which is respectfully submitted.

"Franklin Bache,
"John W. Davis,
"W. Bacon Stevens,
"Joshua I. Cohen,
"Theophilus C. Dunn,

"*Washington, January 3d*, 1840." *Committee.*

The Convention then proceeded to choose the members of the committee of revision and publication proposed in the above report, and Drs. Wood, Bache, Dunglison, Cohen, Dunn, Stevens and Sewall, were appointed.

The committee whose duty it was to arrange a plan for the organization of the next Convention, for revising the Pharmacopœia, made a report, which, at the suggestion of Dr. Stevens, was amended so as to make the first Monday in May, 1850, the time for the meeting of the Convention, instead of the first Monday in January, 1850. The report thus amended, and modified in other respects to suit this change, was adopted by the Convention as follows:

The committee appointed to suggest a plan for organizing the next Convention, report, that they have taken the subject into consideration, and ask leave to submit the following resolutions, which, with a few modifications, are the same as those adopted in 1830, for the organization of the present Convention.

1. The President of this Convention shall, on the 1st day of May, 1849, issue a notice requesting the several incorporated state Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy, throughout the United States, to elect a number of delegates, not exceeding three, to attend a general Convention to be held at Washington on the first Monday in May, 1850.

2. The several incorporated bodies thus addressed shall also be requested by the President to submit the Pharmacopœia to a careful revision, and to transmit the result of their labours through their delegates, or through any other channel, to the next Convention.

3. The several medical and pharmaceutical bodies shall be further requested, to transmit to the President of this Convention the names and residences of their respective delegates, so soon as they shall have been appointed; a list of whom shall be published under his authority, for the information of the medical public, in the newspapers and Medical Journals, in the month of February or March, 1850.

4. In the event of the death, resignation or inability to act, of the President of the Convention, these duties shall devolve upon the Vice President, and should the Vice President, also, be prevented from serving, upon the Secretary, or the Assistant Secretary, the latter acting in the event of the inability of the former.

George B. Wood,
Thomas Sewall,
Robley Dunglison,
Committee.

Washington, January 3, 1840.

The following resolutions were offered by Dr. Wood and adopted by the Convention:

Resolved—1. That the Secretary take charge of and preserve the existing records until his successor shall be appointed by the Convention of 1850, when it shall be his duty to hand them over to such successor.

2. That in case of the death, resignation or inability to act, of the Secretary, his duties shall devolve upon the Assistant Secretary; and 3. That it be recommended to future Conventions to appoint their Secretary, or Secretaries from members residing in the District of Columbia.

Dr. Bond offered the following resolution, which was adopted:

Resolved—That the committee of revision and publication be requested to take such measures as they may deem most effective to induce Physicians and Apothecaries to adopt the nomenclature of the Pharmacopœia in their prescriptions and labels.

Dr. Dunglison offered the following resolution:

Resolved—That the officers of this Convention be requested to prepare forthwith, for publication, such part of the transactions of the Convention as may seem to them to be adapted for making extensively known its important objects and proceedings, and that they be authorised to publish the same in the various Medical Journals of the United States, and in such of the daily and other newspapers as they think proper.

This resolution was adopted, and it was made the duty of the Secretary and Assistant Secretary to carry it into effect.

Having transacted business of great interest to the medical profession of their country—having passed votes of thanks to the officers of the Convention "for the able and dignified manner in which they had discharged their respective duties," and to the Board of Aldermen, of Washington, for the use of their Hall, the Convention, after a session of three days, characterised by a spirit of generous cordiality, which must contribute greatly to secure the objects for which they met together, adjourned.

By order N. W. Worthington, *Secretary.*
Harvey Lindsly, *Assistant Secretary.*

P. S. The Medical Journals throughout the United States are respectfully requested to copy the foregoing abstract of the proceedings of the Convention.

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Medical Topography of the city of Galveston, Texas, with an account of the Symptoms and Pathology of the Yellow Fever, which prevailed in that city in the autumn of 1839. By Ashbel Smith, M. D., Ex-Surgeon-General of the Texian Army.—Galveston Island, forming a part of the coast of Texas, is about thirty miles long, and of an average breadth of four or five miles. It is but little elevated above the surrounding water, quite level, destitute of trees, and presents altogether the general appearance of a prairie. The soil is light, porous, of a darkish gray colour, with a large admixture of sand as you approach the margin of the Island, and every where covered with a luxuriant grass. Water of rather indifferent quality, but just admissible for culinary uses, may be obtained by digging a few feet in any part of the island.

The city of Galveston is situated near the eastern extremity of the island, in latitude 29 deg. 18' N. and longitude 96 deg. 6' W. from Greenwich. The town site as laid out, extends quite across the island, which here varies from a mile and a quarter to two miles in breadth. The city is thus washed on its southeastern border by the Gulf of Mexico—while its opposite side which has a northwestern aspect, is washed by Galveston Bay, a broad sheet of water extending about forty miles into the country. A gentle curvature of the island on the bay side, Pelican Island, a long, level tract of land of about one thousand acres, situated at two miles distance north of the city, and the peninsula terminating in Bolivar Point to the north east, form the harbour. The heaving of the tide has formed a natural levee along the shore of the harbour, of about two feet in height and one hundred feet in breadth. Immediately in the rear of this levee, the land is low, being nearly on a level with the water at middle tide, and overflowed with water at high tides. Further in the rear, the land is again elevated and consists of a firm, dry, porous soil. From the overflow of the tides and from occasional rains, there exists at all times, between the levee and the elevated land in the rear, either a quagmire or a sheet of shallow water, three fourths of a mile long, and varying from one hundred to three hundred feet in breadth, exposed to the rays of an ardent sun. In front of this portion of the city, the shipping, from twenty-five to fifty craft, ride at anchor. Along the levee and immediately contiguous to the morass, runs the Strand, the principal business street of the city.—Nearly all the stores and buildings on one side of the Strand, are erected in or over the morass, without its having been filled up at all, or but very inadequately. In addition to the mud and moisture suffered to remain beneath, and in the rear of these buildings, the filth which business and population engender, has been permitted to accumulate. The rest of the city, with this single exception, from the porous nature of the soil, is dry and presents an aspect of general neatness, comfort and cleanliness, rarely to be seen in any part of the world.

The city of Galveston is yet scarcely two years old, and is estimated already to contain from two thousand to twenty-five hundred souls. The houses are framed buildings, most of them painted white, and in their external appearance, resembling the neatest houses of this sort in the small towns of the Eastern States.

For general healthfulness, Galveston Island, including the city, is probably unsurpassed by any place in the world. We are here exempt from the typhus fevers of cold climates, and the malignant endemics of the miasmatic regions of the south. The few diseases that occur here, are for the most part of a moderately inflammatory character, and readily yield to the simplest treatment. The mild breezes that are wafted over us, bear no unseen deadly poison on their wings. When the south wind prevails, the transparent clearness of the skies and balmy softness of the atmosphere, realize all that poets have sung of the Ægean. The winds from the east and north east are more harsh, and when they blow for a considerable period produce an inelastic state of the atmosphere, and dispose to agues. The brisk northers, coming from a point west of north, depress the mercury in the thermometer lower than easterly winds, but are justly regarded as less prejudicial to health. The range of the thermometer in this climate is high during the warm season, but the bland breezes from the south, which prevail very constantly throughout this period, and are usually strongest at midday, render the heat very seldom oppressive. They produce an elastic state of the atmosphere; the nights are cool, and a large portion of the citizens wear cloth the whole year. During the summer months, northers are of rare occurrence; they generally commence blowing moderately early in October. Frost commonly makes its appearance between the 1st and 10th of November.

Galveston continued in the enjoyment of its general healthfulness the present season, furnishing very few cases of severe disease, and these were mostly contracted elsewhere, until the latter part of September. About this time a Mr. Tichenor, keeping a retail store on the Strand, died rather suddenly with well defined symptoms, as was reported, of yellow fever. This report, however, did not attract much attention. Two or three days afterwards I was called to see a Mr. Lang, in the ten pin alley on the Strand, opposite Mr. Tichenor's, presenting the prominent symptoms of the same disease. In the progress of this case blood oozed freely from the patient's gums for sixty hours. He nevertheless recovered promptly. At this time, Sept. 30th, I was called to see in consultation H. Abrahams, who had been sick for three or four days. I found him with a violent hiccough, and an irratibility of the stomach, which suffered nothing to rest upon it. In a few hours the black vomit unequivocally declared itself; he died the next day, and the body became of a deep *yellow* hue. There were two other attacks which I did not see, a day or two previous to the 30th, both of which proved fatal. On the 30th, several new cases occurred, and the number increased daily until the morning of the 9th of October, when the epidemic appeared to be suddenly arrested for a period of about sixty hours.

On the 30th September, and for some days previously, strong easterly winds prevailed, with cloudy weather throughout the twenty-four hours. From the 1st to the 5th October, the wind blew from the east and northeast, in the morning it hauled round to the south east, and near south in the course of the day and evening, gradually becoming lighter and dying away in the fore part of the night; and regularly springing up about day break, with stiff breezes from the N. E. and E.—We afterwards had light southeasterly and southerly breezes throughout the twenty-four hours, with occasional lightning and a few drops of rain about midnight, until the morning of the 9th October. At this time a stiff norther set in with drizzling rains, which lasted till the middle of the forenoon of the 11th. From the 30th September to the 9th October, the thermometer ranged at midday, in the shade, from 84 to 88 degs. On the 9th it stood at midday at 69½, on the 10th at 66½; on the 11th at 79, on the 12th at 80 degs. Within the fifteen hours immediately preceding the norther and fall of the mercury, I was called to eight new cases, and I have been informed of some others. During the prevalence of the norther, I do not believe, after careful inquiry, a single new case occurred. Subsequently the epidemic reappeared in a somewhat mitigated form—the first fresh attack occurring, I believe, about 5 P. M. on the 11th. Subsequently to this date the thermometer ranged generally from 80 to 85½ degs. at midday—descending one day as low as 70 degs. with variable winds chiefly between the N. E. and S. until the morning of the 5th November, when a

stiff norther set in which blew three days. The thermometer on the 7th, stood at 45 degs. in the morning, and 58 degs. at midday. There was on the night of the 6th and 7th a slight frost, which it is hoped has put an end to the epidemic. It may be observed here, that although the northers prevented new cases, they were believed to be pernicious to persons previously attacked.

Description of the Disease.—The fever which I am about to describe, made its appearance on the Strand, and no case has occurred in the city, except among persons living or spending much of their time on this street, or its near vicinity. Persons in every condition of health, were subject to the disease, the robust being apparently equally obnoxious to it as the feeble. The larger number of cases was of men about the middle period of life. The other sex was not exempt, and a few well marked though not severe cases occurred in young persons not arrived at puberty.

Very slight indisposition, without any particular premonitory symptoms, in most cases preceded the attack. The invasion occurred at any time of the twenty-four hours—more frequently I think between midday and dark, or between midnight and day.

The disease commences pretty uniformly with pains of the bones, a little sickness of the stomach, some fulness of the head, moderate chilliness, very seldom amounting to a complete rigor; and the slight diminution of nervous sensibility of the extremities, usually felt in the forming stage of most fevers. This state continues only a short time, from a few minutes to two or three hours, when it is succeeded by intense pain through the forehead and eyes, excruciating pains in the loins, extending sometimes down the thighs, and great restlessness. The eyes are bloodshotten, and have a peculiar shining, drunken appearance—the face is flushed and bloated—the skin hot and generally dry, sometimes moist and warm—the pulse is full, frequent, in some cases bounding, not hard—the pain of the bones and sickness of the stomach, which were present in the forming stage, continue. Sometimes there is copious vomiting within the first few hours, but as often at this period there exists only nausea or slight sickness. Sickness of the stomach is very seldom, if ever absent, but the patient does not always mention it, except when inquired of, his attention being directed to his intense suffering in the loins and forehead. The tongue is moist, rather large, moderately furred, in some cases bordered with a well defined red edge, not unfrequently of a healthy aspect. The thirst in some cases is moderate, in others considerable, seldom very intense. The epigastrium is slightly sensible on pressure, in many of the severest cases, quite indolent—the mental operations are in rare instances disturbed, very generally coherent, in some quite natural, in many sluggish, unless roused by the severity of pain. There is this noticeable in the restlessness, that it is not always accompanied with jactitation, but consists in a disposition to rise from the bed and walk about. Frequently on turning round I have found a patient sitting on the edge of the bed, who a moment before was lying quietly.

A diminution of the pains and febrile excitement very generally takes place, from eight or ten, to twenty hours after the invasion. If the disease proceed to a favourable termination, the abatement of all the symptoms continues gradually, and convalescence at length commences without any marked crisis, that I have been able to discover, except this gradual disappearance of all the morbid symptoms, and the resumption of the functions, as in health. In many cases it might be dated as early as on the third day—and in a few, perhaps even sooner—and this early convalescence has happened when the attack was ushered in with great violence. In others, convalescence commenced about the fifth or seventh day—in one case not until the fifteenth day. Convalescence may have declared itself on the intermediate days—it being difficult to determine this point precisely in the absence of a marked crisis. It was very short, recovery was prompt, and I am not aware of a single case of relapse.

When the disease proceeds to a fatal termination, the diminution of the febrile symptoms and pains goes on as described in the preceding paragraph, until about the end of the second or third day, the pulse becomes of its usual fre-

quency, the surface of its natural and pretty equally diffused temperature. In the mean time, the sickness of the stomach, which, although uniformly existing to a greater or less degree during the preceding period of excitement, was not often a subject of much complaint by the patient, is *insidiously* and gradually augmenting, until it soon amounts to uncontrollable irritability, with frequent retching and vomiting. The fluids discharged at first are watery, clear or coloured by the beverages taken. The restlessness is increased, the patient sleeps scarcely at all, or but a few minutes at a time. The tongue becomes thinner and redder at its margin—in some, however, it is quite or nearly natural—the thirst much augmented; the epigastrium becomes now somewhat tender, or exquisitely painful on pressure, particularly adjoining the right hypochondrium. As this period approaches to its close, the sympathies of the system appear to be destroyed. The pulse is slow and languid, the surface is dry and of the temperature of health, the intellectual faculties are clear; these functions give no token of the fatal state which is on the eve of being developed. A faint yellow tinge may now be discovered about the neck, on the breast, between the alæ of the nose and corners of the mouth, about the eyes and roots of the hair on the forehead; the blood-shotten appearance of the eye gives place to a faint yellow suffusion of the adnata. Slight eructations of air from the stomach take place, at first at distant intervals, and unnoticed by the patient, but soon assuming the form of a very frequent and convulsive hiccough; the black vomit speedily declares itself unequivocally; the matters vomited vary in appearance from a dull brownish translucent liquid, with a few minute flakes swimming in it, to one resembling a strong turbid decoction of coffee; the alvine dejections become dark, and resemble a mixture of thin starch and soot; the matters voided by stool, and those vomited in very malignant cases, sometimes have a very sanguinolent tint; the urinary secretion is suspended; hæmorrhages from the mouth occur; the patient makes occasional feeble efforts to vomit, many of which are abortive, others are followed by discharges of black vomit. About the time the black vomit makes its appearance, the restlessness very generally subsides. The mind, too, is singularly quiet and free from agitation, even in persons who have been apprised by their friends that death was inevitable. This state may continue from a few hours to several days; when it has been protracted, the vomiting has in a few instances ceased, and the inexperienced have indulged the delusive hope that the patient might recover, but death is sure to close the scene with coma, or a few slight convulsive spasms. Sometimes the vital cord is suddenly snapped at an early period of this stage, and death takes place with scarcely a struggle.

As dissolution approaches, the yellowness increases, and in a few hours after death becomes intense all over the surface, except where this is occupied by livid patches.

Death commonly occurs from the third to the seventh day, most frequently, I believe, on the fifth: in one case on the fourteenth. I heard of two cases which were said to have been fatal in the first twenty-four hours. I saw three cases which ran their career without any interruption from medicine or attendance *whatsoever*, in seventy-two hours very nearly.

The bowels, during the early periods of the disease, are costive, unless moved by cathartics. The first dejections are commonly feculent, in some cases coloured with bile, in others inclining to a light drab hue. When the appropriate cathartics are not exhibited, or fail to arouse the liver and other glands to healthy secretions, the stools in the course of the disease become lighter, and frequently present in colour and consistence a starchy, cream-like, or puruloid aspect. About the time the black vomit commences to be formed, the aspect of the stools is changed: they become darker as the fatal symptoms proceed, until they resemble a mixture of thin starch and soot, become sanious or sanguinolent. It is proper to state, that in many cases I have been unable to note the variations of the stools, so as to speak with sufficient precision of their prevailing character. It has occurred to me, however, to witness the black dejections near the close of fatal cases more frequently than any others.

I have several times observed a spongy state of the gums, as if ptyalism were about to commence, in patients who had taken no calomel.

During the latter periods of this disease, the pulse beats with its natural frequency in a remarkable manner, being, perhaps, rather more languid than in health—very seldom accelerated until the patient is moribund—when it is irregular and fluttering, not uniformly frequent.

The mind, too, preserves an undisturbed serenity, which the old stoics might have envied, while irretrievable ravages are going on in the vital organs with frightful rapidity, and life itself is on the very brink of dissolution.

The *Black Vomit*, as already stated, varies considerably in its appearance. The characteristic marks are, however, unequivocal—they are *dark flocculi*, swimming in a fluid, varying from a brownish, slate-coloured, or whey-looking liquor, to one resembling a strong decoction of coffee. In the first portions vomited, and in milder forms, the flocculi are generally few and minute. In more aggravated cases, they are very abundant, and present every variety of shape, like fine powder, stelliform, linear, or in shreds. In the most malignant cases, the black vomit approaches in appearance to dissolved blood. The flocculi subside very slowly to the bottom of the fluid, and the latter is seen to be of a light greenish or whey-coloured tinge. Sometimes, however, the flocculent portion swims on the surface, and in appearance is not unlike the inside of the dry mushroom, called puff-ball. In portions of black vomit, which had been kept a few days, the flocculi which at first had subsided, slowly arose and swam on the surface of the fluid. The common comparison of black vomit to a turbid decoction of coffee, probably conveys the best idea of its usual appearance. It is inodorous and insipid, or nearly so.

After the most careful inquiry, I am of opinion that very nearly all—as many as nine out of ten of the fatal cases, were accompanied with black vomit. In one body examined after death, which occurred on the fourteenth day after the attack, I found the stomach distended with genuine black vomit, although it was asserted that none had been ejected during life. I have also often seen its well known dark, dusty-looking stains on the bed clothes, when the attendant had not yet suspected its existence.

In the congestive fever and other climatic diseases of this country, I have never seen any thing vomited which was liable, on careful examination, to be mistaken for black vomit; although the mixture of porraceous and dull grayish matters, sometimes vomited in severe congestive fever, has been rashly pronounced black vomit by careless observers—to which, when accurately examined, it bears *very little* resemblance. I have observed a very prevalent disposition to exaggerate the colour of matters ejected from the stomach.

I have witnessed eight cases of *hæmorrhage from the mouth*—five, after black vomit had declared itself. There have also been cases of hæmorrhage from the *nose* and *bowels*.

Hiccough was a pretty frequent, though not invariable symptom of fatal cases. It was always troublesome, and has appeared to me to furnish a scarcely less unfavourable prognosis than black vomit, of which it was a frequent precursor. *Petecchiæ* and large *livid patches* have appeared in a few cases.

Picking of the bed-clothes, and a mild wandering delirium, in some cases, preceded death by many hours.

The severity of the disease is not always in proportion to the violence of the invasion—many of the severest cases having set in with mild symptoms.

The *yellow suffusion* after death was of *very uniform* occurrence, being seldom or never absent.

It is proper here to add, that there has been great uniformity in the leading symptoms of all the cases. *Pains* in the *head*, *eyes* and *loins*—the *characteristic* expression *of the eyes*—*vascular excitement and gastric irritability* in the *first* periods: augmented *gastric irritabitity*, and *black vomit* near the fatal termination, and *yellow suffusion* after death, have been more or less observable in every case. I have, therefore, regarded these as the *pathognomonic* symptoms of the disease.

Pathology.—Intending to give, among the cases, the post-mortem examina-

tions I have made, I shall omit, under the present head, unimportant details, and confine my attention chiefly to the essential pathological condition, which was identical in its nature in every case examined. What follows is the result of seven autopsies.

The *mucous coat* of the stomach is the tissue on which the disease uniformly and mainly commits its greatest ravages. Other structures experience its fury, give rise to various symptoms, and doubtless contribute to the fatal issue. The peritonæal, muscular and cellular coats of the stomach present, so far as I can determine, no pathological lesion whatever. Viewed externally, this organ is of a pretty uniform dull pearl colour, except where the trunks of the blood vessels are rendered visible by the darkish blood with which they are more or less distended. The stomach, on being opened, was in all cases found to contain a considerable quantity—from half a pint to a pint of black vomit—whether the patient had vomited for some time preceding his death or not. On pouring off the black vomit, dark-coloured flocculi—the flocculi of black vomit—are seen *adherent* to the mucous coat of the stomach, dispersed as well over its superior portions as its inferior—the body lying horizontally, and on its back—thus showing they had not subsided after death. The flocculi being detached by washing the stomach in water, the mucous membrane is found *entire*, of a dull, pearl, *whitish* colour, much *thickened* and *softened*. In two cases the softening was so great, that the villous coat could, in portions, be scraped almost into a pulp, with the finger nails. The thickening of the mucous coat is not uniform, but presents, in portions, particularly about the lesser curvature, *rugæ*, and an unequal surface, somewhat like the unevenness of the rind of a lemon—the *etat mamelonne*. No erosions or abrasions have I yet witnessed, unless I except in two cases, an *apparent* ulceration or two of the diameter of a pin's head; and a very slight abrasion in two cases of the edge of the reduplicated fold forming the border of the cardia. Neither was there any thing in the matters vomited in the most ferocious cases, which, on careful examination, could be mistaken for detached portions of the stomach. A *very few* points and small stelliform, *spattered* patches of bright red, as in common inflammation of this tissue, existed; but these points and patches of red would not, except in a single case, form a surface in their aggregate an inch square. In two of the cases examined, the whole mucous coat of the stomach presented the white, much thickened and softened condition above described; in four cases, from three-fourths to five-sixths only of the mucous coat presented this condition, commencing at the pylorus and terminating within one or two inches of the cardiac orifice—while the remaining portion surrounding the cardis, was the seat of a *most intense diffuse red injection*—preserved its *usual firmness*—was but little, if at all *thickened*, and entirely *destitute* of *flocculi* adherent to its surface. This injection does not present the pointed, stellated or spattered patches of common *active* inflammation; but the blood appears to be *diffused* throughout the mucous tissue, and the colour is more or less intense, in proportion to the quantity of blood contained in the different parts, and is of a hue between venous and arterial blood. The line of demarcation between the pale or colourless and injected portions of the mucous coat is, for the most part, as well defined by the different thickness of the two portions, as by their different colour—the white, thickened condition of the one part, the intensely engorged, red colour of the other, which still preserves its normal thickness.

I entertain no doubt that the mucous coat which is thickened and softened, with dark flocculi more or less dispersed over its surface, and destitute of blood in its texture, is in a pathological condition, more advanced than the injected portion. That the thickening and softening supervene upon, or is a sequel of the intense injection or engorgement: and of course, that a state of high sanguineous engorgement is *invariably* precedent to that in which the larger portion of the mucous coat is uniformly found after death. The disengorgement in whatsoever way effected—whether by an imperfectly performed process of secretion, as appears not improbable, or whether the blood is effused pure and undergoes some change by admixture with the fluids of the stomach—forms the

black vomit, or furnishes the material for it, and leaves the mucous tissue bloodless, colourless, thickened, more or less softened and unfit for the purposes of life.

If it be borne in mind that the colourless portion of the mucous tissue is softened and thickened, that the injected portion is not, and that these pathological lesions do not promptly disappear; that a careful examination shows the flocculi which are dispersed on the colourless mucous tissue to be closely adherent, as if formed there, while the injected portion is not only destitute of a single flake, but that none will adhere to this portion; that the colourless condition of at least a large extent of the mucous tissue, was an invariable concomitant of black vomit, while the injected condition was wanting in three cases, we can feel no doubt of the order in which these lesions succeed each other.

What I wish particularly to insist on, and what appears to me to be amply borne out by the examinations I have made, is that the essential pathological conditions of the stomach in fatal cases of the present epidemic, so far as these conditions are cognisable by our senses, are, first, a state of high sanguineous engorgement of the mucous membrane of this organ, which engorgement is relieved by the formation of the black vomit—a process fatal to the vital uses of this tissue, and, of course, fatal to life, where a large portion of it is involved. The engorgement is not a condition similar to gastritis—at least to its *common* forms. It does not give rise to the same aggregate of symptoms—it does not present essentially the same pathological appearance—its terminations are altogether unlike.

At what period of the disease the engorgement takes place I am unable to say with precision. In cases which convalesce rapidly, I believe it does not take place at all. In other cases I believe it seldom occurs to any considerable extent, until the close of the period of excitement. And I have been disposed from the most careful appreciation of symptoms to regard the augmented or renewed gastric irritability occurring at this time, or at a subsequent period, as the first symptom of the commencement of serious engorgement. And in the treatment it will be found a very important indication to prevent any torpor of the cutaneous vessels, or reflux of the blood from the surface upon the internal organs. What is the condition of the mucous tissue or of the gastric nerves, which invites so singularly in this disease to engorgement, I am wholly unable to conjecture.

In one case the stomach presented numerous bright red points and extensive red spattered patches as in the more common forms of active inflammation of this tissue; and they were chiefly abundant about the cul-de sac of the stomach. The mucous membrane generally was thickened, softened, and in the colourless, disengorged state hitherto described. The appearances in this case were interesting by comparison with the *diffuse* redness seen about the cardiac orifice in other cases.

I deem it almost unnecessary to say that the examinations were conducted with great care, and the existence of the injection in the texture of the mucous coat and not in the subjacent tissues accurately observed.

Intestinal Canal.—Viewed externally, large portions of this canal are of a deep dark colour—not gangrenous. This colour is owing in some degree to that of the contents, but the intestinal tube itself is pretty permanently imbued with a dark brown colour which does not wholly disappear on washing. There is usually moderate congestion of the blood vessels. In some cases, sections of the intestines are pale and much contracted. The external coats of the canal are healthy. We find more or less dark matters throughout the tract—those of the duodenum are sometimes mingled with black vomit, which has passed the pylorus, perhaps after death:—lower down, they are black as tar and gelatinous, sanguinolent near the ileo-cœcal valve in one case—in the contracted portions, moderate in quantity, pasty, and colourless. The intestinal mucous membrane is smeared with a starchy material more or less glutinous in different parts; and pathological lesions sometimes are found in the *duodenal* and *ileo-cœcal* portions. The glands of Brunner and Peyer are sometimes greatly developed, at other

times apparently healthy. There was no obvious and uniform pathological condition apparent to me in this membrane—it was neither thickened nor softened in any noticeable degree. The upper portions of the tube were more commonly distended, the lower portions contracted. Not a particle of bile was ever found in the intestinal canal. Whether this deficiency will explain most of the morbid appearances, I am unable to determine. The absence of bile in the alimentary canal is by no means of unfrequent occurrence in the febrile diseases of this climate; and whenever this condition exists, it very uniformly occasions *black stools*, sometimes viscid and sometimes watery. I have often seen stools *as black as tar wholly* and almost *instantaneously* checked by a single discharge of *bile*, and the stools forthwith become healthy. While on this subject it may not be amiss to mention that dark, tarry stools are often supposed to be, and described as vitiated *bile*, when they do not contain a particle of bile. The morbid appearances of the intestinal tube were much less severe than those of the stomach, as well as widely different.

The Liver—was found in all cases of its usual dimensions, of ordinary firmness, and without any obvious *structural* derangement. In three cases it was of a very light drab colour externally and internally, and destitute of blood—in one of a dark claret colour and congested with blood—in the others, of its usual appearance and containing a moderate quantity of blood. In all cases there appeared to be a suspension of the biliary secretion; no bile could be squeezed from the substance of the liver. The bile in the gall bladder was deficient in quantity—in some, dark and very tenacious, in others yellow and thin—in only one case was the gall bladder distended. The mucous lining of the gall bladder was in one case *intensely* inflamed. It is scarcely necessary here to contradict the popular error, that black vomit is a vitiated product of this organ, for nothing of this nature was discovered in any part of its substance, nor in the ducts leading to the alimentary canal. On the contrary the *ductus communis choledochus* as in the case of Robinson, contained a little yellow bile, while the stomach was full of turbid black vomit of the deepest dye.

The *yellow suffusion* of the surface is properly considered among the *post mortem* appearances. That there is a total want of the biliary secretion during the latter periods of this disease is an unquestionable fact. There is no bile contained in the stools that can be discovered, none is found after death in the alimentary canal, in the substance of the liver, and but a very small, less than the usual quantity in the gall bladder. Where is it? At what time this suspension of hepatic action takes place, I am unable to say with precision. From observation of the symptoms, I believe it occurs as early as engorgement of the stomach commences, and is perhaps synchronous with this event. Slight yellow suffusion of portions of the superior parts of the body occurs as has been described, about the time that other symptoms lead us strongly to suspect the commencement of engorgement. The intense yellow colour after death depends on the colouring matter of the bile which has been deposited by the blood. Whether there has been a reabsorption of the biliary secretion, or whether the elements have never been eliminated, is immaterial to the appearance now under consideration. During life, the yellow colour is in some degree veiled by the red colouring matter of the blood; on the separation of this fluid after death, the serous or coagulable portions are of a yellow hue; the red globules produce the livid patches. Wherever in the present disease I have found serum after death, as in the pericardium, it has been *invariably* of the hue of the surface.

The Bladder of Urine was in some contracted, in others distended, and presented nothing worthy of particular notice, except in a single case—that of Forsyth—to which reference may be made for the facts. The *kidneys* when examined offered nothing worthy of note.

The *pancreas* was generally firm and dry. The *spleen* natural.

The *thoracic viscera* are sound. A few drachms of yellow serum are commonly found in the pericardium; and, in one case, a large false polypus of a bright yellow hue in the left ventricle. The *heart* usually contains a moderate quantity of darkish blood. The blood is healthy, neither putrid nor dissolved.

The *brain* and *spinal marrow* were not examined.

According to the pathological conditions above described, it appears that two important organs have *invariably* suffered—the *stomach* and *liver*. The *mucous coat* of the former organ *always* has presented *severe structural* derangements:—a condition which I am strongly disposed to regard as the proximate cause of the death of the individual, the *mortis ratio sufficiens*. The latter organ, the *liver*, has with *equal uniformity* exhibited undoubted evidences of severe *functional* derangement; or, accurately speaking, a *total suspension* of its function of *biliary secretion*. How intimately these two conditions are associated—what relation they bear to each other in the chain of cause and effect, or whether they are independent effects of some common cause, I cannot determine. From the suspension of the urinary secretion, which very uniformly occurs without appreciable lesions of the kidneys during the last period of the disease; and from the occasional pathological lesions of the mucous lining of the gall bladder and of the urinary bladder, &c., it would appear that most, perhaps all the glandular and mucous tissues respectively of the abdomen, are prone to be in some degree similarly affected in this disease.

The obstacles to extensive dissections in private practice, rendered it impracticable to make examinations of the brain and spinal marrow—as was desirable; although the symptoms would I think justify the doubt, whether any *peculiar*, *appreciable* lesion of the nervous system existed.

The *blood* drawn during the stage of excitement appeared to me not to vary from a healthy condition. It *coagulated with moderate firmness, without inflammatory buff*, or *tendency to putrescence*. Nor were there any symptoms or appearances which I regard as showing any defect in its decarbonization by the lungs.

[The preceding interesting article is extracted from a memoir entitled, "An Account of the Yellow Fever which appeared at Galveston, Republic of Texas, in the Autumn of 1839, with Cases and Dissections. By Ashbel Smith, Ex-Surgeon General of the Texian Army." We have been favoured by the author with a portion of this memoir, (all that was in type when he wrote to us,) and as the pathology of yellow fever is now undergoing discussion and exciting much interest, we have inserted such parts as are calculated to throw light upon that point. When the concluding portion reaches us we shall review the work.]

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Operation for Remedying an Anchylosis of the Hip-Joint.—Dr. J. Kearney Rodgers furnishes in the *New York Journ. of Med. and Surg* (Jan., 1840,) the following particulars of an interesting operation which he performed some years ago, to remedy an anchylosis of the hip-joint. "It was similar in some respects," Dr. R. observes, "to the one performed by my friend Dr. Rhea Barton, of Philadelphia, in Nov. 1826, and was suggested by the account given by him in the *North Am. Med. and Surg. Journ.* for 1827.

"I am desirous of placing it on record, that the Profession may be in possession of all the operations of the kind, with their results; and, also, for the purpose of correcting the impression made by some inaccurate public notices of it. Velpeau in his work on Surgery speaks of it, on the authority of an American physician, as fatal; and I also see it alluded to in the *English Cyclopedia of Pract. Surg.* as followed by the same result.

"James Hall, an Irish labourer, aged 47 years, of healthy constitution, in October, 1829, suffered a severe injury by being caught between a vessel and the wharf.

"By this accident, the left thigh was fractured about its middle; and the right hip-joint severely contused. For the treatment of those injuries he was placed on his back, Boyer's apparatus applied to the left thigh, and the right thigh flexed, rotated outwards and abducted. The apparatus being badly adjusted, sloughing took place in the left groin, and all dressings were removed. No extension was kept up from this time, and the os femoris united two inches shorter than the right. The inflammation of the hip-joint proved very severe, and terminated in complete bony anchylosis.

"He was admitted under my care into the New York Hospital, November 10th, 1830. At this time, he could indeed walk, but with a painful effort, and the knees, in the act of progression, were separated two feet and a half. He was unable to support his family, and was desirous of having the deformity remedied. His general health was good.

"In consultation with my colleagues, Drs. Mott, Stevens, and Cheesman, I proposed to cut down on the os femoris, saw it off immediately above the less trochanter, and, as this limb was two inches longer than the other, to remove as much as possible of the bone between the trochanter and the head, so as to make the two limbs, as nearly as I could, of the same length, This plan was assented to, and on the 24th of November, 1830, at 12 o'clock, the operation was performed in the following manner. An incision was made, six inches in length, in the course of the os femoris, beginning about an inch above the trochanter major. This was met about its middle by another from the front, three inches in length. The flaps were turned off, and the soft parts easily detached from the bone, so that in a short time, and with much less difficulty than I anticipated, my fingers were passed round the bone immediately above the trochanter minor. The division of the bone was attempted by the chain saw, but the instrument breaking, the section was completed with a saw recommended by Dr. Barton, (*North Am. Med. and Surg. Jour.* for 1827, p. 292.) This being accomplished, the limb was readily placed parallel with its fellow. Another section was made, and a wedge-shaped portion removed, the thickness of which at the outer part was about half an inch, and at the less trochanter, three-quarters of an inch. The removing a portion of bone of this shape, I thought would enable me to keep the limb which had been greatly abducted, more readily in situ.

"The wound was dressed with adhesive plaster and lint, and a bandage applied.

"The patient was now removed to his ward, and placed on a firm mattrass. The limb was kept in a proper position by a bandage to the feet.

"*Eight*, P. M.—Pulse 110. Temperature of skin rather higher than natural; pain in wound not very severe; complains of bandage being tight. It was cut, and an anodyne administered.

"25*th*.—Rested tolerably well; skin somewhat heated; wound swollen and hot, but pain not violent; pulse 114. To take spt. Mind. and apply warm laudanum and water to the wound.

"26*th*.—Slept only an hour and a half; skin cool; pulse 117. Sickened by spt. Mind. Pain in region of the stomach, and rejects his gruel and arrow root. Slight oozing of dark blood from the wound. Ordered fomentations to the epigastrium, lemonade as a drink, and to take at bedtime solut. morph, gt. xxxv.

"27*th*.—Slept better; skin natural; pain of stomach removed; pulse 120. Is cheerful. Skin inflamed in the anterior part of the wound. Continue the opiate wash.

"28*th*, 10, A. M.—Slept soundly, and feels much refreshed. Pulse 103.

"*Eight*, P. M.—Pulse 98. Is perspiring freely. Inflammation of skin subsided; dressings removed; wound almost united.

"29*th*.—Slept well; pulse 92, full and soft. No evacuation from his bowels since the operation, and I was unwilling to disturb the bones by moving him. Common enema to be administered. To take chicken water. Wound rather flabby. To be dressed with Ung. Bals. Peru.

"For some days he improved in every respect.

"*Dec. 5th*.—On passing the finger into the wound, the bones could readily be felt in a proper situation.

"*Dec. 10th*.—Passed a restless night. Bowels loose. Tongue dry and slightly brown; stomach rejects his drinks and food.

"To take the effervescing draught, and have an injection of starch and laudanum.

"This attack soon passed off, and in six weeks from the operation the wound was nearly healed. Passive motion was now commenced and kept up daily.

"About the 1st of March, the wound healed, and he was supported on crutches. He remained in the Hospital until the beginning of May, 1831, when he left it of his own accord.

"*May*, 1833.—My patient paid me a visit, walking well, and assisted only by a cane. He assured me that he could walk well enough if the left thigh gave him as little inconvenience as the one on which I had operated. But the left knee was somewhat stiff, as was the thigh, in consequence of the scars produced by the sloughs in the groin.

"He can rotate the right limb inward and outward; abduct it, and flex it nearly to a right angle. Thus far the success of the operation was perfect and I intended to keep my eye upon him, and examine the joint from time to time; but I never saw him afterward. I was the more anxious to follow up the case, because, after two or three years, Dr. Barton's patient lost the mobility of his joint.

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Sensitive Tumours of the Female Urethra.—This is a most troublesome affection, at least so it has proved in the few cases that have come under our observation. The following case, related by Dr. A. E. Hosack, in the *New York Journal of Medicine and Surgery*, (July, 1839,) is worthy of attention from the success which attended the treatment.

"In May, 1835, I was consulted," says Dr. H., "by a servant woman in a family where I was in attendance, for a complaint which she said had caused her considerable distress, and, as she expressed herself, it appeared as if something had dropped into the passage immediately after making water, causing her great pain at the moment, and which frequently bled, particularly upon being touched by her linen. Upon the slightest exertion she was seized with bearing-down pains, to such a degree as to compel her to take her bed. These difficulties, she said, had been gradually increasing upon her for two or three years, and being unmarried, she was from delicacy induced to conceal her sufferings, until no longer able to bear them.

"From this statement I was induced to make an examination, which clearly explained the cause of all her trouble. I discovered two or three little tumours immediately within the meatus urinarius, to which they were attached by a narrow neck. They were of a florid red colour, and appeared to be covered by the delicate lining membrane of the urethra. They were exquisitely sensitive, and bled upon the slightest touch. In form they resembled a split pea, varying from that in size to a small kidney bean, and placed upright in such a manner as to break the flow of urine. The patient did not, however, complain of the pain upon urinating as her greatest distress, for it was not to be compared to that caused by exertion, or from contact of the dress, which was frequently excruciating.

"By raising these tumours with a probe, I discovered their attachment to be limited to the margin of the urethra, and suggested to her the propriety of having them removed, which I assured her could be readily done, and with comparatively little pain. Having obtained her consent, I snipped them off with scissors; the hemorrhage was not excessive. In a few days the part was healed, and she appeared to be completely rid of the evil, until about six weeks after, when the sensitiveness and other symptoms returned. In the course of three months I was again requested to relieve her, if possible, by a further operation. Upon examination, I found the margin of the urethra fringed with the same highly organized structure. It appeared as if the lining membrane had been prolapsed and was turgid with blood; or, in other words, had shot out like a fungus. Under these circumstances I determined to remove the diseased structure by excising the meatus urinarius, and this was accordingly done. The wound in due time was healed, leaving the parts apparently sound, with the exception of a few spots of discoloration in the folds of the nymphæ, which I afterwards destroyed by caustic.

"The extremity of the urethra remaining somewhat harder than might have been expected in sound parts, I expressed doubt whether it might not be the

incipient stage of scirrhus. The disease, however, in the course of a few months returned with all the distressing symptoms as before enumerated. The patient being again willing to submit to any operation that I might advise, I determined to remove the urethra to an extent that would hold out a better prospect of success. My friend, Dr. Wilkes, with whom I consulted, confirmed this opinion, and assisted me in the operation.

"The patient being placed upon the bed in a recumbent position, with the legs flexed upon the body, I began with measuring the length of the urethra, by introducing the female catheter and marking it the instant the urine began to flow; this precaution I considered necessary, from the fact that the length of the urethra, in females, is very variable; at the same time, I was unwilling to encroach too much upon the bladder, which might endanger consequences more distressing to the individual than the existing disease.

"The preliminaries being attended to, I seized the fungous excrescence with the *pince* of *Muscux*, and drawing it out, I circumscribed the urethra with a knife, carried on the dissection until I had detached about three-quarters of an inch in extent, as I supposed. I then examined the urethra at the upper extremity of the wound, and finding it perfectly natural and free from all hardness, I separated it at that point. The hemorrhage, for the moment, was very great; but by pressure, constantly kept up with a compressed sponge, it was arrested, or so much restrained as to do away with all anxiety on that account.

"The patient having made water a short time previous to the operation, I did not consider it necessary to leave a catheter in the bladder, which I afterwards regretted, as I was obliged to draw off the urine the following morning, but not without considerable difficulty, as may be imagined. I determined, however, for the future, to leave the catheter in the bladder, or at least until the urine should flow at its side; which took place on the sixth day, when I removed the instrument. Since which time, she has enjoyed full control over that organ, and voids urine with comparative ease.

"It is now six months, and no return of the disease. No bougie was introduced to keep open the mouth of the urethra, as might, *a priori*, have been considered necessary. Indeed, I purposely avoided using it, lest the irritation might predispose the parts to a return of the disease. Upon examining the part removed, I found the urethra to be very much thickened and hardened at its extremity; but this circumstance not being observed in other instances of this disease as related by different authors, I must conclude that it had no agency in the growth of these tumours, but was probably the result of irritation.

"I first met with this disease in the practice of my friend, Dr. Mott, who, several years ago, was consulted by a gentleman on account of his daughter, who laboured under this distressing complaint. The case was one of great interest, both from the circumstance of the patient being at the delicate age of eighteen, and on the eve of marriage. She had suffered from this disease for two years and upwards, and considering it an insurmountable objection to marrying, had frequently deferred the nuptial ceremonies, at the same time not willing to break off her engagement, and unable any longer to conceal her actual situation, she disclosed the true cause to her father, the only surviving parent, who immediately came to New York, and placed her under the care of Dr. Mott.

"In this case, Dr. Mott, after carefully examining the disease, determined upon removing the *meatus urinarius*, to the margin of which two or three small flattened and vascular tumours were attached. They were of the size of small beans, highly florid, and exquisitely sensitive. The wound healed kindly after the operation; the result was perfectly successful, when she returned home to her friends, and afterwards married."

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Club-foot and some analogous Diseases.—The Number of the *New York Journal of Medicine and Surgery* for January, 1840, contains an elaborate and valuable essay on club-foot and some analogous diseases, by Dr. WILLIAM DETMOLD, of New York. Dr. D. has had a larger experience in the treatment of these deformities than any other surgeon in this country; and he has contributed in no small

degree, by his paper published in the Number of this Journal for May, 1838, and his numerous operations, to introduce and establish the Stromeyerian method of treating them. We shall notice this last essay of Dr. D. more particularly hereafter; we have only space at present for the following summary of his cases:—

"Of the 167 patients with distorted feet, which we have examined and treated within the last two years, and from the observation of which the foregoing facts are derived, 98 were males and 69 females—38 were within their first year, 62 between the first and third, 31 between three and twelve, 27 between 12 and 25, and nine between 25 and 50.

"125 were born with the deformity; seven of these squinted at the same time. In 42 it originated after birth; in nine of these it was connected with an evident affection of the spine. In 19 cases there was an hereditary predisposition; (in 18, members of the father's family—and in one, of the mother's, having a similar defect.) In six families, several children had the same deformity.

"In 93 both feet were affected, in 41 the right alone, in 33 the left, (aggregate 260.) 230 were T. varus, 11 T. valgus, 17 T. equinus, 2 T. calcaneus.

"Treated without division of tendons, 2 T. calcaneus, 11 T. valgus, 45 T. varus. The oldest patient treated without an operation was fifteen years old; 13 between one and four; the rest less than a year old. The youngest patient in which we have divided the tendo-Achillis, was three months old.

"In 163 we divided the tendo-Achillis alone; in 17 we divided other tendons also, and the aponeurosis plantaris. In three cases we have divided the tendo-Achillis twice.

"In many cases where the deformity was developing itself after birth, it only required the application of a suitable shoe to remedy it, and make the patient at once walk straight. In cases where the deformity had reached a higher degree, and where we had to divide tendons, the shortest period in which the patient could walk well was eight days; the longest ten months. But amongst this whole number which we have treated within these two years, there are hardly fifty who, with our consent, have left off all support; the rest still use it. For the result of many cases we cannot answer, as in many instances the children were brought, perhaps only once or twice, to our office, and a shoe provided for them, and we never saw them afterwards.

"We have in other contractions divided one sterno-cleido-mastoideus, one biceps brachii, one flexor carpi radialis, one flexor carpi ulnaris, one palmaris longus, one flexor digitorum manus sublimis, four flexor tendons of separate fingers, one pectineus, six biceps femoris, seven semimembranosus and semitendinosus, five extensor tendons of separate toes, three flexor tendons of separate toes; besides a number of times, different portions of fasciæ and aponeuroses.

"In every one of these cases the external wounds healed by the first intention, and only in one case, after the division of the m. flexor digitorum manus, we saw inflammation and an abscess."

We must not omit to notice the very handsome manner in which Dr. D. yields his claim to being the first surgeon in this country, to perform the Stromeyerian operation.

"In the beginning of September, 1837," he remarks, "I performed the operation in New York, and repeated it several times soon after; and in the Number of the *American Journal of the Medical Sciences* for May, 1838, I published a report of several successful cases. As no notice had appeared before that time, in any publication, of this operation having been performed in America, I was induced to believe that I had been the first surgeon who had performed it on this side of the Atlantic; and, indeed, for a short time I enjoyed the credit of it, until soon after Dr. Dickson, of North Carolina, and Dr. Smith, of Baltimore, claimed the priority. As the medical periodicals of this country had given me the credit of its introduction here, Dr. Stromeyer was misled to believe it, and I herewith make to those gentlemen an apology for my friend, for saying in his work on club-foot, 'Dr. Detmold, late surgeon of the royal Hanoverian army, commenced his practice in New York, with a series of successful divisions of the tendo-

Achillis. The enterprising surgeons of America had, until then, not undertaken this operation, although my essays in Rust's Journal had been translated in the American medical periodicals.' But although I have thus no claim to the priority—Dr. Dickson having operated once in 1835, two years before me, and Dr. Smith in 1836—yet, as neither of these gentlemen, nor any other surgeon in this country, had reported any cases of the operation before I began, and as since the publication of my report, several hundred cases (of which number, however, I claim the greater part myself), have been operated upon in the different cities of the United States—I say, from these circumstances, I am inclined to believe that I have done something for the introduction and establishment of this operation in this part of the world."

This statement is in the highest degree creditable to Dr. D., and in our view does him more honour than he would derive from even the invention of the operation.

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Vermont Academy of Medicine.—This institution has been resuscitated. The following compose the faculty:—Horace Green, M. D., Theory and Practice of Medicine; Robert Nelson, M. D., General and Special Anatomy and Physiology; James Hadley, M. D., Chemistry and Pharmacy; James Bryan, M. D., Principles and Practice of Surgery; Joseph Perkins, M. D., Materia Medica and Obstetrics; Ralph Gowdey, M. D., Medical Jurisprudence. The course of instruction will consist of a lecture term and reading term. The public lectures will commence on the second Tuesday in March, and continue thirteen weeks. Fee to the whole course $50; matriculation $5. The reading term is to be conducted by Drs. Perkins and Jamieson, and will commence on the 15th June and continue until the first of March. Fee for the whole term $36.

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Wills' Hospital for persons affected with Diseases of the Eyes and Lameness.—The surgeons of this institution have determined to render it available for clinical instruction. Dr. Isaac Parrish commenced, on the first of January, a course of clinical instruction, and it will be continued during the months of April, May and June by Dr. Fox; July, August and September by Dr. Littel; and October, November and December by the editor of this Journal.

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Dr. Thomas Cooper's Works.—We learn that the memoirs and writings of the late Dr. Thomas Cooper, are preparing for publication by his son-in-law, Dr. John Manners, of New Jersey.

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Introductory Lectures.—We have a number of these on our table, some of which we may notice particularly hereafter; but in justice must state now, that they are all creditable productions, and, as a whole, manifest a decided improvement over those of previous years.

INDEX.

A

Abdomen, wound of, with protrusion of bowels, 481.
Abscess, ileo-cœcal, 188.
——— of the brain, 269, 462.
Adams' case of cysts of the bladder, 438.
Albany medical college, 258.
Albumen in dysentery, 205.
Alcock on injuries of the head, 214.
———, case of wound of abdomen, 481.
Alcohol, therapeutic effects of, 195.
Allier on ergot in paralysis of the bladder, 210.
Aloes, medical properties of, 445.
Alum internally in gonorrhœa, 210.
Amenorrhœa cured by leeches to uterus, 213.
American medical almanac, 415.
Ammoniacal vapour in aphonia, 206.
Amussat's case of establishment of artificial anus, 228, 473.
Anasarca and convulsions following scarlatina, cured by bleeding, 451.
Anchylosis of hip-joint cured by operation, 507.
Animal mechanism and physiology, 414.
Annan's hospital report, 32.
Antimony, hydrated sulphuret of, 444.
———, tartarised, mechanical action of, 191.
Anus, artificial, established, 228, 473.
———, fissures of, 472.
Aorta, compression of, to arrest uterine and other hemorrhages, 241.
Aphonia cured by ammoniacal vapours, 206.
Arm, traumatic paralysis of, 228.
—— pit, fœtid perspiration from, 451.
Arnaud's cases of paraplegia cured by ergot, 450.
Arsenic, iodide of, in cancer, 231.
———, poisoning with, 487.
Arteries, Goddard's plates of, 179.
———, torsion of, 478.
———, red appearance of internal coat of, 189.
———, repressing hemorrhage from, 229.
Atmosphere, containing a portion of carbonic acid, means of rendering it respirable, 493.
Augusta, epidemic in, 410.

B

Babington and Rees on preservation of subjects for anatomical purposes, 434.
Baltimore almshouse hospital, report of cases treated in, 32.
Barnard on treatment of chronic hydrocephalus by pressure, 476.
Baudelocque on compression of aorta to arrest hemorrhage, 241.
Beatty's case of laryngismus stridulus, 438.
Beheaded, remarks on a person who had been, 423.
Benoit on influence of position in effecting reduction of hernia, 463.
Beraudi on citrate of quina, 445.
Billiard on diseases of infants, review of, 358.
Bischoff's remarks on a person who had been beheaded, 423.
Black snake root in chorea, 288.
Bladder, paralysis of, 210.
———, sacculated condition of, 438.
———, cysts of, 438.
Blake's researches on the phenomena which result from the introduction of certain salts into the circulating system, 187.
Blandin on traumatic paralysis of the arm, 228.
Blood, Magendie's lectures on, 135.
———, pus in, 441.
Bones, process of reparation after fracture, 479.
Bougies of ivory, 226.
Brain, ulceration, 188.
———, penetration of, by a nail, 226.
———, abscess of, 269.
———, effusion of blood in, 437.
Bretonneau's case of croup, 455.

C

Cæsarian operation, 486.
Calculi, urinary, 464.
Campanella, statistics of lithotomy, 464.
——————— lithotripsy, 465.
Cancer, iodide of arsenic in, 231.
Cannon, injuries from explosion of, 251.
Carcinomatous upper lip, 176.
Carganico's case of spontaneous evolution, 485.

Cataract, capsular, Middlemore's new instrument for, 234.
Ceeley's experiments with small pox, 440,
Chafes, raw cotton for cure of, 496.
Chapman on diseases of the stomach, 77.
——— on dyspepsia, 323.
Charlton's account of Segato's cabinet, 181.
Chilblains, ointment for, 212.
Child, effect of milk on, during menstruation, 190.
Children, five at one birth, 485.
Chlorosis, menorrhagie, 210, 457.
Cimicifuga in chorea, 288.
Circulating system, phenomena produced by salts in, 187.
Clavicle, extirpation of portion of, 463.
Club-feet, etiology of, 224.
———, cases of, 316.
——foot, Detmold on, 511.
College, medical, of Philadelphia, 262.
Colles' case of sacculated bladder, 438.
Cooper's case of penetration of the skull and brain by a nail, 226.
——— on process of separation after simple fracture of bones, 479.
———, Thomas, works, 512.
Conium maculatum in scrofulous ophthalmia, 235.
Convention for revising pharmacopœia, proceedings of, 260.
Copaiba, medical properties of, 446.
Corpus luteum, structure of, 186.
Corrigan on exhibition of remedies in form of vapour, 191.
——— on phthisis, 206.
Cotton, in chafing, 496.
Crane on iodide of arsenic in cancer, 231.
Cranium, fracture of, 269, 272.
Croup, bicarbonate of soda in, 205.
———, tracheotomy in, 476.
Curtis on kreosote in deafness, 453.
Cutaneous diseases, Porter's cases of, 68.

D

Davies on local use of iodine, 229.
Detmold on club-foot, 511.
Devergie on signs of suspension having taken place during life, 492.
Dickson's case of somnambulism, 73.
Digestion, experiments on, 429.
Dispensatory, Wood and Bache's, 259.
Donnellan's case of triplets, 58.
Dyspepsia, 323.

E

Earle's account of thirteen asylums for insane in Europe, 99.
——— on climate, diseases, &c. of Malta, 309.
Ectopia cordis, 428.
Emetics, 201.
Ergot in paralysis, 205, 450.
——————— of the bladder, 210.
———, induction of premature labour by, 237.
Esquirol and Marc on that form of insanity which predisposes to stealing, 244.
Eve's case in which a thimble was impacted in posterior nares, 494.
Eye, Fox's cases of diseases of, 13.
——, Wallace's treatise on, 172.
——, hair in posterior chamber of, 236.
——s, luminous appearances of, 236.

F

Femur, dislocation with fracture, 218.
———, ununited fracture of, 273.
Ferral's case of ileo-cœcal abscess, 188.
Fœtation, extra-uterine, 485.
Fœtus, delivery of, with membranes entire, 483.
Fore-arm, ununited fracture, 273.
———, fracture of, 276.
Forster's case in which duration of pregnancy was ascertained, 484.
Fox's cases of diseases of the eye, 13.
Fractured bone, process of reparation, 479.
Fractures, treatment of, by the immoveable apparatus, 460.
France, prison mortality in, 493.
Frederking's syrup of ioduret of iron, 449.
Freedrick on alum in gonorrhœa, 210.

G

Gajani's case of vesico-vaginal fistula, 175.
——————— carcinomatous upper lip, 176.
——— on apparatus of Moscati, 177.
Galveston, medical topography of, and epidemic of 1839, 499.
Gangrene, spontaneous, 177.
Gay's new preparation of ipecacuanha, 248.
Goddard's plates of the arteries, 179.
Gold-leaf to prevent pitting in small-pox, 453.
Graefe moxas, 465.
Graham on means of rendering an atmosphere, containing a portion of carbonic acid, respirable, 493.
Green's case of effusion of blood in brain, 437.
Griscom's animal mechanism and physiology, 414.
Guastamacchia's case of fœtid perspiration from armpit, 451.
Guerin, on lateral deviation of, 236.
Gulliver on pus in the blood, 441.

H

Hale on typhoid fever of New England, 180.
———————, reviewed, 396.
Hall's Practice of Medicine, review of, 342.
——— case of anasarca and convulsions after scarlatina, 451.
Hand, incised wound of palm of, 278.
Head, Kirkbride's cases of injuries of, 23.
——, Alcock on injuries of, 214.
Heart, wound of, 225.
——, experiments on action of, 415.

Heart, penetrating wounds, diagnostic sign of, 482.
Hemorrhage, compression of aorta to arrest, 241.
Hemorrhoids, internal, 471.
Hernia, reduction of, 230, 463.
———, Jackson on, 302.
———, influence of position in effecting reduction of, 463.
———, inguinal, treatment of, by trusses, 465.
Hip, on apparent shortening or lengthening of the limb in injuries, 232.
——, injuries of, 280.
Hodgson on red appearance of internal coat of arteries, 189.
Hoebeke's cases of cæsarian operation, 486.
Hosack on tumours of female urethra, 509.
Humerus, fracture of neck of, 267.
———, luxation of, 279.
Hydrocephalus, chronic, treated by pressure, 476.
Hydrocyanic acid, poisoning with, 243.

I

Immoveable apparatus, treatment of fractures by, 460.
Indigestion, alkaline, 212.
Infants, Billard on diseases of, reviewed, 358.
Inflammation of internal organs following external injuries, 475.
Injuries from explosion of cannon, 251.
Insane, asylums for, in Europe, 99.
Insanity, that form which predisposes to stealing, 244.
Iodine, on local use of, 229.
Ipecacuanha, new preparation of, 248.
Iron, syrup of ioduret of, 449.
Italy, litrotripsy in, 464, 465.

J

Jackson on hernia, 302.
Jaw, removal of upper, 258.
——, resection of lower, 458.
Jobert on internal piles, 471.
——— fissures of the anus, 472.
——— diagnosis of wounds of heart, 482.

K

Kennedy on use of the plug in placental presentations, 486.
Kieselbach's case of congenital absence of the liver, 183.
Kirkbride's cases of injuries of the head, 23.
——— on cimicifuga in chorea, 288.
Knee-joint, injury of, 306.
———, case of contracted, 319.
Kopp on cicuta in scrofulous ophthalmia, 235.
Kreosote, styptic powers of, 444.
——— in deafness, 453.

L

Labour, premature, 337.
Larrey and Legrand on gold leaf as a means of preventing pitting in small-pox, 453.
Lungs, contribution to pathology of, 453.
Laryngismus stridulus, 437.
Lawson's annual report, 411.
Lee's human physiology, 180.
—— on structure of corpus luteum, 186.
Leg, tumour on simulating aneurism, 283.
Liquor amnii, yellow, 485.
Lisfranc on diseases of the uterus, 401.
Lithotomy, 464.
Lithotrity, 234, 464, 465.
Liver congenital, absence of, 183.
Lodge's translation of Lisfranc on diseases of the uterus, 401.
Lohmeyer on results of revaccination in Prussian army, 246.
Lonsdale on poisoning with hydrocyanic acid, 243.
Louis on yellow fever, reviewed, 378.
Lupus, Schmidt's cases of, 299.

M

Macartney on means of repressing hemorrhage from arteries, 229.
Maclachlan's case of tubercular excavation, &c. without any symptoms of its presence, 453.
Magendie's lectures on the blood, review of, 135.
Malta, climate, diseases, &c. of, 309.
Malgaigne on treatment of inguinal hernia by trusses, 465.
Marchand on formation of urea, 185.
May's case of ulceration of brain, 188.
Middlemore's new instrument for capsular, cataract, 234.
Medical valets, 249.
Mercurial plaster, compound, to prevent pitting in small-pox, 451.
Mettauer on nitro-muriatic mixture as a remedial agent, 291.
Milk during menstrual period, effects of on child, 190.
Mondiere on albumen in dysentery, 205.
Moscati's apparatus for fracture of neck of humerus, 177.
Montgomery's case of laryngismus stridulus, 438.
Moxas of wafers, 465.
Muller and Reiter on styptic action of creosote, 444.

N

Narcotine as a substitute for quinine, 194.
———, preparation of, 248.
National medical convention for revision of pharmacopœia, 496.
Nouche's new test of pregnancy, 483.
Nervous affections, Young's cases of, 61.
Nitrate of silver, medical properties of, 198.
———, in croup, 455.

Nitro-muriatic mixture, 291.
Nixon's case illustrative of duration of pregnancy, 484.
Nonat's case of double peritoneal sac, 429.
———, on mercurial plaster to prevent pitting in small-pox, 451.
Norris's report of surgical cases, 265.

O

Obstetric department of Philadelphia Dispensary report for 1839, 494.
Ollivier on the effects which result from the introduction of pins into the digestive organs, 491.
Ophthalmia, scrofulus, cicuta in, 235.
Orfila's late discoveries relative to the means of detecting poisoning with arsenic, 487.
O'Shaughnessy on narcotine as a substitute for quinine, 194.
———, preparation of narcotine, 248.

P

Paget on blood-vessels of tendinous tissues, 183.
Paralysis of the arm, 228.
——— bladder, 210.
Paraplegia, ergot in, 450.
Paris, vital statistics of, 493.
Patterson on induction of primature labour, 237.
Patella, dislocation of, on its axis, 252.
———, rupture of ligament of, 175.
———, partial dislocation of, 277.
Pecchioli's case of ectopia cardis, 428.
Pennock and Moore, experiments on the action of the heart, 415.
Pennsylvania Hospital report of surgical cases in, 265.
Peritoneal sac, double, 429.
Perineum, lacerations of, 468.
Perspiration, fœtid from arm-pit, 451.
Petechial fever of St. Petersburgh, 251.
Philips on division of tendons and their mode of union, 219.
———'s case of division of hamstring tendons, 221.
Phthisis, nature and treatment of, 206.
———, statistics of, 245.
Plug in placental presentations, 486.
Poisonous vapour from rotten potatoes, 245.
Polli on mechanical action of tartarised antimony, 191.
Porter's cases of cutaneous disease, 68.
Position, effect in reducing hernia, 462.
Potass, hydriodate of in syphilis, 480.
Potatoes, rotten, poisonous vapour from, 245.
Pregnancy, new test for, 483.
———, duration of, 484.
Pressure in chronic hydrocephalus, 476.
Prison mortality in France, 498.
Purdon's case of yellow liquor amnii, 485.
Pus in the blood, 441.

Q

Quinia, citrate of in intermittents, 445.

R

Rectum, enormous accumulation of fæcal matters in, 437.
Regnoli, extirpation of clavicle, 463.
Remak on torsion of the arteries, 473.
Renaud's case of secondary small-pox, 436.
Revaccination, results of in Prussian army, 246.
Ricord on hydriodate of potass in syphilis, 480.
Rienzi's cases of stone, 464.
Robertson on raw cotton as a cure for chafes, 496.
Rogers's case of anchylosis of hip-joint cured by operation, 499.
Roux on lacerations of perineum, 468.
Ruette's case of development of hair in posterior chamber of eye, 236.

S

Savigny, luminous appearances in the eyes, 236.
Sawlin's case of reduction of strangulated hernia, 230.
Scarlatina followed by convulsions and acute anasarca, cured by large bleeding, 450.
Schmidt's cases of lupus. 299.
Schultz's experiments on digestion, 429.
Sedillot on apparent lengthening or shortening of the limb in injuries of the hip, 232.
Segato's method of preserving dead bodies, 181.
Sigmond on therapeutic effects of alcohol, 195.
——— on medical properties of nitrate of silver, 198.
——— on emetics, 201.
———on medical properties of aloes, 445.
——— copaiba, 446.
Silver, nitrate of, medical properties of, 198.
———, in croup, 465.
Simons on yellow fever of Charleston, 406.
Slippery elm bougie, 821.
Small-pox, two attacks of, 486.
— ——, Ceeley's experiments with, 440.
———, mercurial plaster to prevent pitting, 451.
———, gold leaf as a means of preventing pitting in, 453.
Smart on tenotomy, 316.
Smith's medical almanac, 415.
Smith on topography of Galveston, and epidemic of, 1839, 499.
Soda, bicarbonate of, in croup, 205.
Somnambulism, 73.
Spaeth's case of extra uterine fœtation, 485.
Spine, treatment of lateral deviation of, 230.
Spine, fracture of, 268.
Spontaneous evolution, 485.
Stanton's case of injury of knee-joint, 306.
Statistics, of Paris, 493.
———, of prison mortality in France, 493.

Stealing, that form of insanity which predisposes to, 244.
Steifensand's case of wound of the heart, 225.
Stille's case of fungoid tumours of the tibia, 256.
Stomach, Chapman on diseases of, 77.
Stomatitis gangrenous, 456.
Subjects, preservation of for anatomical purposes, 434.
Surgeon-general's U. S. A. report, 411.
Suspension, signs of its having taken place during life, 492.
Syphilis, hydriodate of potass in, 480.
Szokalski's case of delivery of fœtus with membranes entire, 483.

T

Tanchou's case of amenorrhœa cured by leeches to uterus, 213.
Taupin on treatment of gangrenous stomatitis, 456.
Tendinous tissues, blood-vessels of, 183.
Tendons, on their division and mode of union, 219.
———, section of hamstring for cure of contracted joint, 221.
Tenotomy, Smart on, 316.
Theil on muscles which rotate the vertebræ, 184.
Thomson on alkaline indigestion, 212.
Thompson on inflammation of internal organs after external injuries, 475.
Thornhill's case of dislocation of femur in ischiatic notch with fracture, 218.
Tibia fungoid, tumours of, 252.
Tobacco in strangulated hernia, 303.
Tonsils, enlargement of, 282.
Toulemouche's experiments on hydrated sulphuret of antimony, 444.
Tracheotomy in croup, 466.
Triplets, case of, 58.
Trousseau on menorrhagic chlorosis, 210, 457.
Trusses, treatment of inguinal hernia by, 465.
Tumours, fungoid of tibia, 256.
——— on leg, simulating aneurism, 285.
——— of female urethra, 509.
Turpentine, formula for internal [illegible]tration of, 445.
Typhoid fever, review of Hale on, 396.

U.

Urea, formation of in human body, 185.
Urethra, case of stricture of, 321.
———, tumours of female, 509.
Uterus, Lisfranc on diseases of, 401.

V.

Vapour, on exhibition of remedies in form of, 191.
Vermont Academy of Medicine, 511.
Vesico-vaginal fistula, case of, 175.

W.

Wafers, moxas of, 465.
Wallace on the eye, 172.
Warren's case of removal of upper jaw, 258.
Warrington's report of obstetric department of Philadelphia Dispensary, 494.
Waters' case of stricture, 321.
Watson's case of dislocation of patella on its axis, 252.
Webber's cases of injuries from explosion of cannon, 251.
Wegscheider on spontaneous gangrene, 177.
Wills Hospital, report of cases treated in, 13.
———, clinical instruction at, 512.
Wœnker on resection of lower jaw, 458.
Wrist, incised wound of, 277.

Y.

Yellow fever, Louis on, reviewed, 378.
———, of Charleston, Louis on, 406.
———, of Augusta, 410.
———, of Galveston, 499.
Young's cases of nervous affections, 61.